General

The operational safety and durability of a pneumatic circuit depends on the quality of the compressed air. The compressed air and the moisture increase the rate of wear of the surfaces and seals, reducing the efficiency and the life of the pneumatic components. Furthermore the pressure fluctuation due to a discontinuous demand of air, adversely effect the correct operation of the circuit. To eliminate these disadvantages it is essential to install the service unit: filter, presure regulator and lubricator.

Construction and working characteristics

The new FRL units AIRPLUS series represents the evolution of the well known and consolidated 1700 series.
The main features are increased performances, reliability, easy and fast assembly and the introduction of the latest technical features.
With the exception of the air intake module and the pressure switch module all elements are available in two configurations: with technopolimer connections (IN and OUT) , (T series), or with metal threaded inserts , (N series).
Bowls made of transparent polycarbonate (PC) are fitted with a bowl protection guard which is assembled on the body via a quick coupling mechanism provided with a safety button. The filter, available with three filtration grades (5μm, 20μm and 50μm) is fitted as standard with a drain mechanism which can be operated manually or semi-automatically. The regulator is based on the rolling diaphragm technology with low hysteresis and the system is balanced. The unit can be fitted with integrated flush mounting pressure gauge (0 to 12 bar range).
4 pressure ranges are available going from 0 to 12 bar and the regulating knob can be blocked in position simply by pressing it down. A dedicated version is available for battery mounting , up to a maximum of 6 units. The lubricator is based on the Venturi principle and the oil quantity is regulated via the adjusting screw positioned don the transparent polycarbonate (PC) regulating dome which also ensure clear visibility of the oil flow and regulation. The oil suction pipe is fitted as standard with a sintered filter which ensures that any contaminant that should be present in the oil will reach the down stream circuit. Shoot off valve is available in two versions, one manually operated and one solenoid operated. In both cases the unit is fitted with a threaded connection for depressurising the downstream circuit. On the manually operated version, in the lock position, it is possible to fit up to three locks in order to prevent the accidental pressurization of the pneumatic circuit avoiding accidents or damages.
The solenoid operated version is available with a 15mm or with a 22mm solenoid valve. The soft start valve ensure a progressive pressurization of the down stream circuit avoiding sudden pressure surges which could be dangerous for the devices fitted on the down stream circuit. The filling time can be easily adjusted via a built in flow regulator. The full flow rate is allowed only once the down stream pressure has reached 50% of the value of the inlet pressure. The pressure switch module which can be set between 2 and 10 bar and the air intake module complete the range. The elements are joint together via dedicated quick coupling technopolimer flanges which allows for the units to be panel mounted moreover ensure the possibility to replace any component without disassembling the FRL group from its position.
90° mounting brackets and standard gauges are also available.

Instruction for installation and operation

The FRL unit must be installed as close as possible to the application.
The air flow direction must follow the directions indicated on the single units in correspondence of the threaded connections.(IN and OUT)
Units provided with bowl must be mounted vertically with the bawl facing down. Single units or groups can be panel mounted via the Y type flanges, regulators and filter-regulators can be mounted via the 90° zinc plated steel bracket. In order to mount the 90° bracket it is necessary to remove the regulating knob and then the locking ring before positioning the bracket. All units must be operated according to the specified pressure and temperature ranges; fittings must be mounted without exciding the maximum torque allowed. Ensure that the units cover plates are in position before pressure is applied. The cover plates are needed to lock in position the top part of the unit. The condense level in filer and filter-regulators bowls must never exceed the maximum level indicated on the bowls. With manual or semi automatic drain the condense can be discharged via a 6/4mm tube directly connected to the drain tap. On the pressure regulator the pressure value must always set wile pressure is rising and ideally the unit pressure range should be chosen based on the pressure value to be regulated. Lubricators must be filled with class FD22 and HG32 oils. Ensure, both on the inlet and on the outlet , that the flow rate is above the minimum flow rate required to operate the unit. Below this value the units does not operate.
The oil quantity can be regulated via the regulating screw on the transparent polycarbonate dome through which it is also clearly visible the oil flow. A drop every 300-600 litres should be allowed. The oil refill can take place only with the bowl not under pressure.This size does not have the dedicated oil re-fill plug.
The manual shot off valve needs, to be operated, a push and turn action (clockwise) in order to close it and discharge the down stream circuit it is necessary to turn anti clock wise the knob. The soft start valve is used to slowly and progressively pressurize the down stream circuit, the time needed to do so can be set by means of the built in flow regulator. The soft start valve on its own does not allow for the down stream circuit to be discharged, in order to do so it is necessary to combine it with a shot off valve (to be mounted upstream).

Maintenance

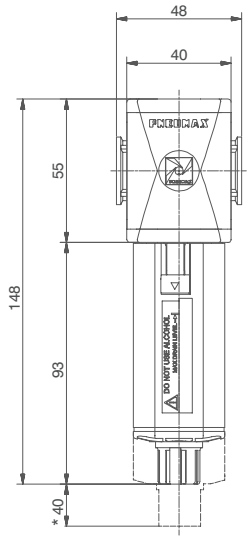
For any maintenance which requires the removal of the top plugs/ supports from the body it is necessary to preventively remove the sides cover plates. If the top plugs\supports are removed with the sides plates still in their position the unit could be permanently damaged.

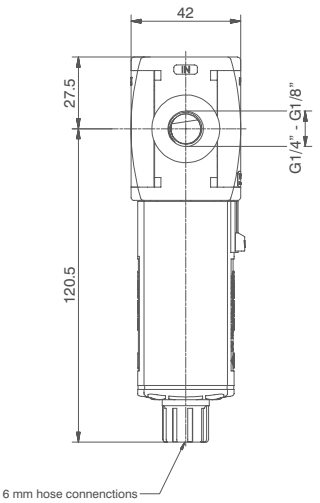
Bowls , plugs and supports are assembled with a bayonet type mechanism. In order to remove them rotate anti clockwise until the mechanical stop is reached and than remove from the body (for the bowls firstly press down the green safety button).
Bowls and transparent parts can be cleaned with water and neutral soap. Do not use solvents or alcohol.
Filtering elements (from filters and filter regulators) made of HDPE can be regenerated by washing and blowing them. In order to remove them it is necessary to remove the bowl unscrew the filter element and replace it with a new one or clean it.
The oil refill process can take place only if the bowl in not pressurized. The oil refill plug is not available on this size.
Should the pressure regulator not perform properly or should present a constant leackage from the relieving replaced the diaphragm by unloading completely the regulating spring before removing the regulation support.
Any other maintenance operation, in consideration of the complexity of the assembly, and the need of a through test according to the Pneumax spa specification, should be carried out by the manufacturer.

Fittings maximum recommended torque applicable

THREAD	Technopolymer version (T)	Metal version (N)
G1/8"	4 Nm	15 Nm
G1/4"	9 Nm	20 Nm
G3/8"	16 Nm	25 Nm
G1/2"	22 Nm	30 Nm

Filter (F)



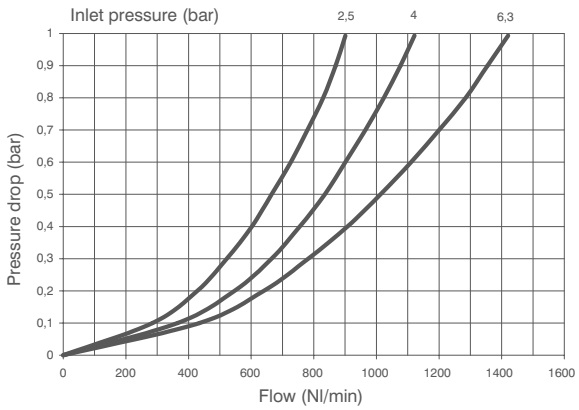


*Bowl removal maximum height

Example: T171BFB : size 1, Filter with Technopolymer threads, G1/4" connections, 20 μm filter pore size

3

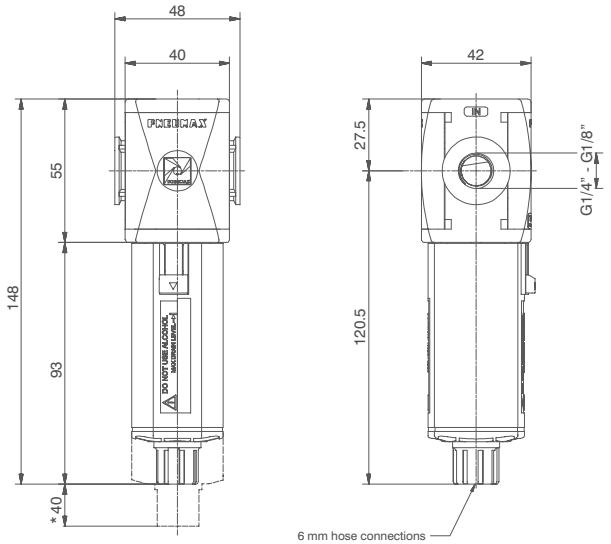
Flow rate curves



Operational characteristics	Technical characteristics		
- Double filtering action: air flow centrifugation and filter element	Connections	G 1/8" - G 1/4"	Ordering code
- Filtering element made of HDPE (high density polyethylene) available in three different filtration grades (5μm, 20μm and 50μm) can be regenerated by washing it or replaced.	Max. inlet pressure	13 bar	ⓋⓋ171ⒸFⓈⓄ
	Minimum working pressure with automatic drain	0,5 bar	Ⓥ VERSION N = Metal inserts T = Technopolymer thread
- Transparent bowl made off polycarbonate with bowl protection guard.	Maximum working pressure with automatic drain	10 bar	Ⓒ CONNECTIONS A = G1/8" (only for "N" version) B = G1/4" C = G1/4" NPT (only for "N" version)
- Bowl assembly via bayonet type quick coupling mechanism with safety button.	Working temperature	-5°C +50°C	
- Semi-automatic drain mounted as standard; automatic drain upon request	Weight with Technopolymer threads	gr. 120	
	Weight with threaded inserts	gr. 130	
Note	Filter pore size	5 μm - 20 μm - 50 μm	Ⓢ FILTER PORE SIZE A = 5 μm B = 20 μm C = 50 μm
In order to ensure adequate flow on the auto drain version it is recommended to use minimum a 6mm fitting.	Bowl capacity	18 cm^3	
	Assembly positions	Vertical	
	Max. fitting torque (with Technopolymer threads)	G1/4" = 9 Nm	Ⓞ OPTIONS = Standard * S = Automatic drain
	Max. fitting torque (with threaded inserts)	G1/8" = 15 Nm G1/4" = 20 Nm	

* no additional letter required

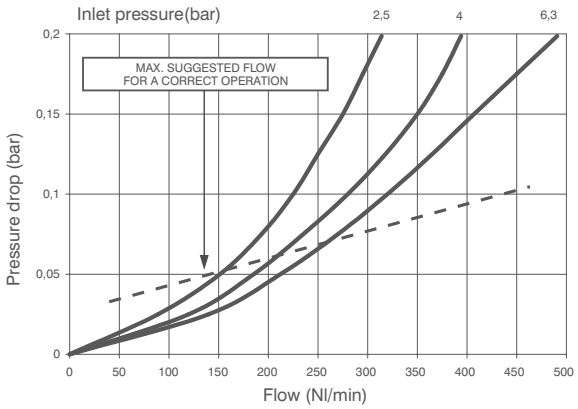
Coalescing filter (D)



*Bowl removal maximum height

Example : T171BDA : Coalescing size 1, Filter with Technopolymer threads, G1/4" connections, filter efficency 99,97%

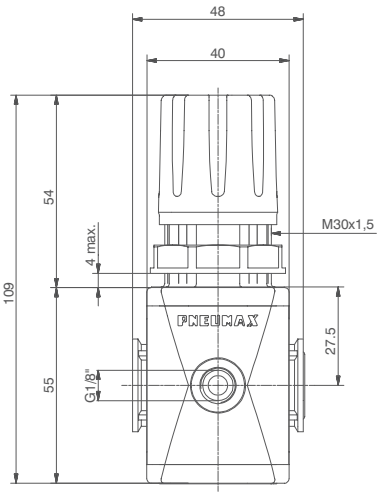
Flow rate curves

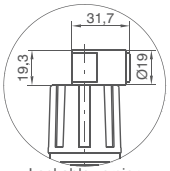


Operational characteristics	Technical characteristics		
- Coelesing filter element with filtration grade of 0.01μm	Connections	G 1/8" - G 1/4"	Ordering code
- Transparent bowl made off polycarbonate with bowl protection guard.	Max. inlet pressure	13 bar	ⓋT171ⒸDⒺⓄ
- Bowl assembly via bayonet type quick coupling mechanism with safety button.	Minimum working pressure with automatic drain	0,5 bar	Ⓥ VERSION: N = Metal inserts; T = Technopolymer thread
- Semi-automatic drain mounted as standard; automatic drain upon request	Maximum working pressure with automatic drain	10 bar	Ⓒ CONNECTIONS: A = G1/8" (only for "N" version); B = G1/4"; C = G1/4" NPT (only for "N" version)
Note	Working temperature	-5°C +50°C	
In order to ensure a better grade of filtration it is recommended to use a 5 μm filter before the coalescing filter. In order to ensure adequate flow on the auto drain version it is recommended to use minimum a 6mm fitting.	Weight with Technopolymer threads	gr. 125	
	Weight with threaded inserts	gr. 135	
	Filter efficiency with 0,01 μm particle	99,97%	Ⓔ FILTER EFFICIENCY: A = 99,97%
	Bowl capacity	18cm^3	Ⓞ OPTIONS: = Standard *; S = Automatic drain
	Assembly positions	Vertical	
	Max. fitting torque (with Technopolymer threads)	G1/4" = 9 Nm	
	Max. fitting torque (with threaded inserts)	G1/8" = 15 Nm G1/4" = 20 Nm	

* no additional letter required

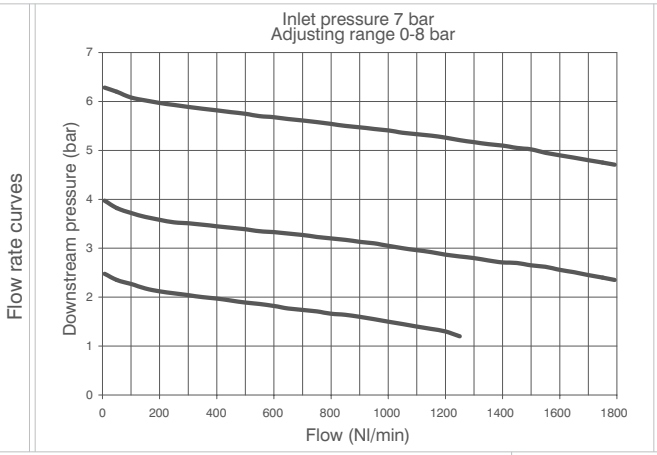
Regulator (R)

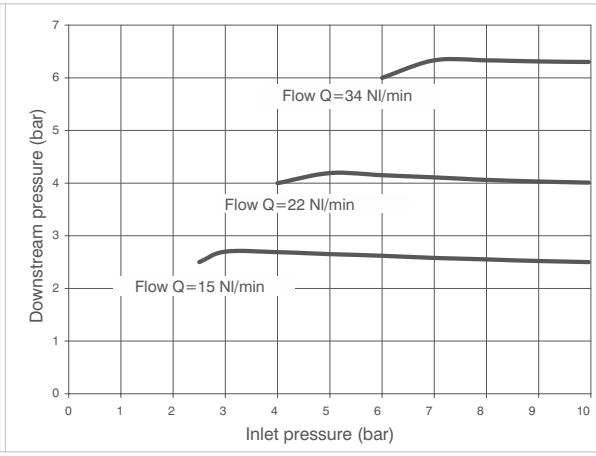




Lockable version
Detail

Example: T171BRC : size 1, Regulator with Technopolymer threads, G1/4" connections, 0 to 8 bar adjusting range





Operational characteristics

- Diaphragm pressure regulator with relieving.
- Low hysteresis rolling diaphragm.
- Balanced system.
- Available in four pressure ranges up to 12 bar.
- Operating knob can be locked in position by pressing it down once the desired P2 (regulated pressure) pressure value is achieved.
- Fitted with panel mounting locking ring.

Note

The pressure must be always regulating while increasing. For a more precise regulation and higher sensibility, the use of a regulator with a pressure range as close as possible to the regulated pressure is recommended.

Technical characteristics

Connections	G 1/8" - G 1/4"
Max. inlet pressure	13 bar
Working temperature	-5°C +50°C
Pressure gauge connections	G 1/8"
Weight with Technopolymer threads	gr. 130
Weight with threaded inserts	gr. 140
Pressure range	0-2 bar / 0-4 bar 0-8 bar / 0-12 bar
Assembly positions	Indifferent
Max. fitting torque (with Technopolymer threads)	G1/8" = 4 Nm G1/4" = 9 Nm
Max. fitting torque (with threaded inserts)	G1/8" = 15 Nm G1/4" = 20 Nm

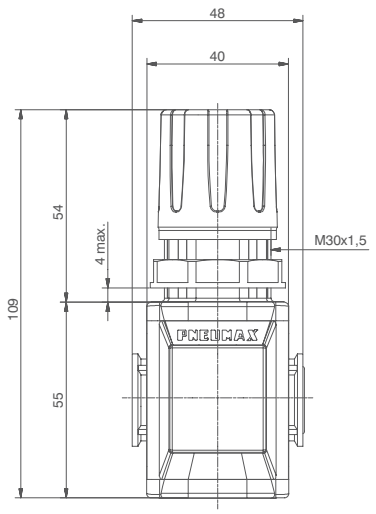
Ordering code

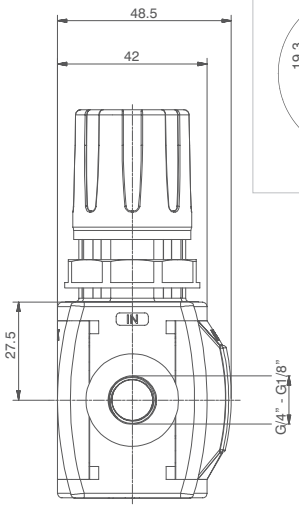
V171CRGTO

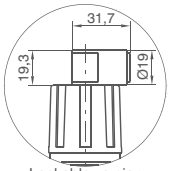
V	VERSION
	N = Metal inserts
	T = Technopolymer thread
C	CONNECTIONS
	A = G1/8" (only for "N" version)
	B = G1/4"
	C = G1/4" NPT (only for "N" version)
G	ADJUSTING RANGE
	A = 0-2 bar
	B = 0-4 bar
	C = 0-8 bar
	D = 0-12 bar
T	TYPE
	= Standard *
	F = Controlled refiel + improved relieving
	L = no relieving
	R = Improved relieving
O	OPTIONS
	= Standard *
	K = Lockable version

* no additional letter required

Regulator including gauge (RM)(RW)

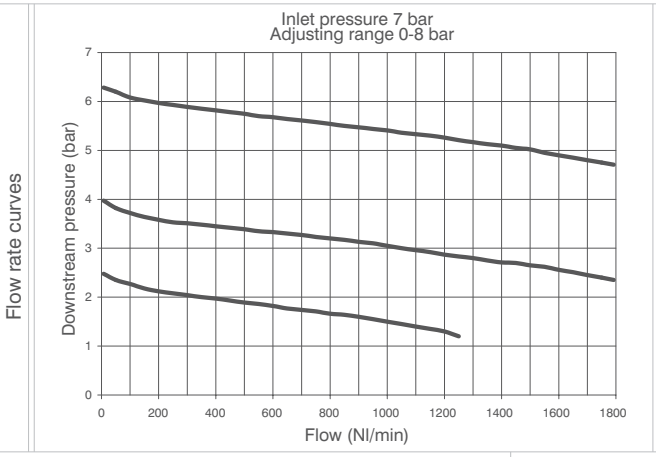


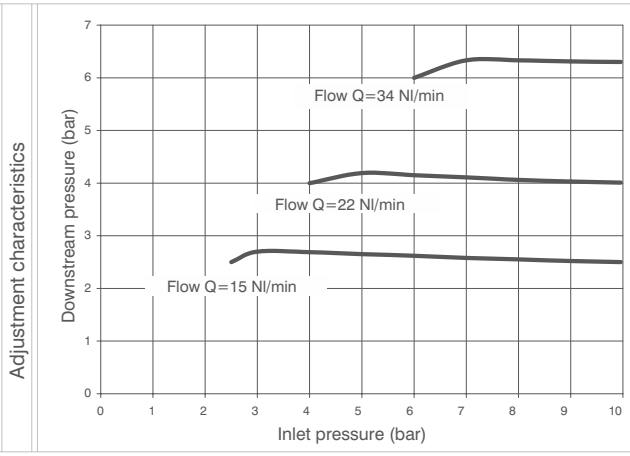




Lockable version
Detail

Example : T171BRMC : size 1, Regulator including gauge with Technopolymer threads, G1/4" connections, 0 to 8 bar adjusting range





Operational characteristics

- Diaphragm pressure regulator with relieving.
- Low hysteresis rolling diaphragm.
- Balanced system.
- Available in four pressure ranges up to 12 bar.
- Operating knob can be locked in position by pressing it down once the desired P2 (regulated pressure) pressure value is achieved.
- Fitted with panel mounting locking ring.
- Integrated manometer 0-12 bar as standard (for 0-8 and 0-12 bar range) and 0-4 bar (for 0-2 and 0-4 range)

Note

The pressure must be always regulating while increasing. For a more precise regulation and higher sensibility, the use of a regulator with a pressure range as close as possible to the regulated pressure is recommended.

Technical characteristics

Connections	G 1/8" - G 1/4"
Max. inlet pressure	13 bar
Working temperature	-5°C +50°C
Weight with Technopolymer threads	gr. 140
Weight with threaded inserts	gr. 150
Pressure range	0-2 bar / 0-4 bar 0-8 bar / 0-12 bar
Assembly positions	Indifferent
Max. fitting torque (with Technopolymer threads)	G1/4" = 9 Nm
Max. fitting torque (with threaded inserts)	G1/8" = 15 Nm G1/4" = 20 Nm

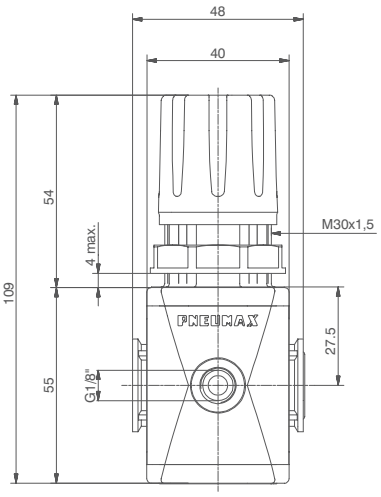
Ordering code

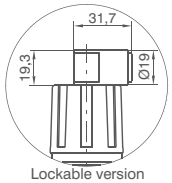
V171CRDGTO

V	VERSION
	N = Metal inserts
	T = Technopolymer thread
C	CONNECTIONS
	A = G1/8" (only for "N" version)
	B = G1/4"
	C = G1/4" NPT (only for "N" version)
D	FLOW DIRECTION
	M = from left to right
	W = from right to left
G	ADJUSTING RANGE
	A = 0-2 bar
	B = 0-4 bar
	C = 0-8 bar
	D = 0-12 bar
T	TYPE
	= Standard *
	F = Controlled refiel + improved relieving
	L = no relieving
	R = Improved relieving
O	OPTIONS
	= Standard *
	K = Lockable version

* no additional letter required

Modular pressure regulator (B)



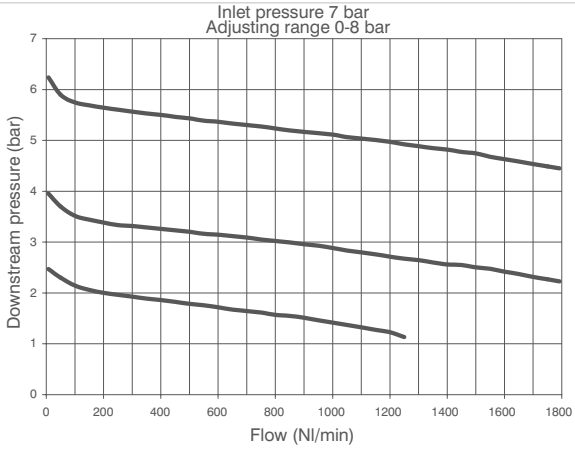


Lockable version
Detail

Example: T171BBC : size 1, Regulator with Technopolymer threads, G1/4" connections, 0 to 8 bar adjusting range

3

Flow rate curves



Operational characteristics

- Diaphragm pressure regulator with relieving.
- Low hysteresis rolling diaphragm.
- Balanced system.
- Available in four pressure ranges up to 12 bar.
- Operating knob can be locked in position by pressing it down once the desired P2 (regulated pressure) pressure value is achieved.
- G1/8" output front connection.
- Air supply can be applied by both directions.

Note

The pressure must be always regulating while increasing. For a more precise regulation and higher sensibility, the use of a regulator with a pressure range as close as possible to the regulated pressure is recommended.

Technical characteristics

Connections	G 1/8" - G 1/4"
Max. inlet pressure	13 bar
Working temperature	-5°C +50°C
Pressure gauge connections	G 1/8"
Weight with Technopolymer threads	gr. 130
Weight with threaded inserts	gr. 140
Pressure range	0-2 bar / 0-4 bar 0-8 bar / 0-12 bar
Assembly positions	Indifferent
Max. fitting torque (with Technopolymer threads)	G1/8" = 4 Nm G1/4" = 9 Nm
Max. fitting torque (with threaded inserts)	G1/8" = 15 Nm G1/4" = 20 Nm

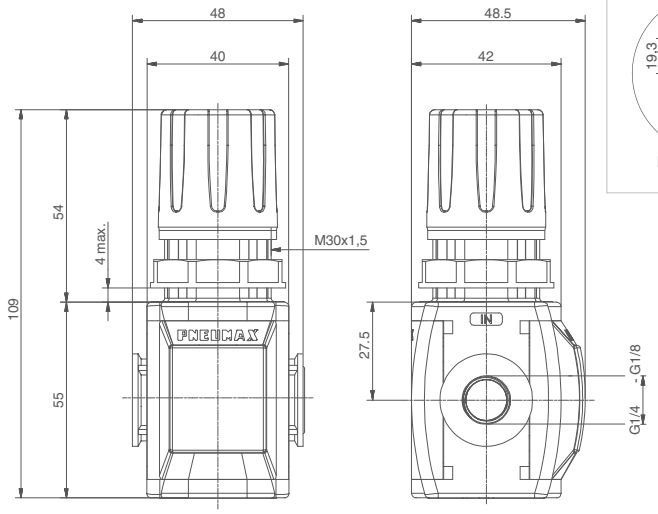
Ordering code

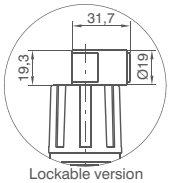
Ⓥ171ⒸBⒼⓉⓄ

Ⓥ	VERSION
	N = Metal inserts
	T = Technopolymer thread
Ⓒ	CONNECTIONS
	A = G1/8" (only for "N" version)
	B = G1/4"
	C = G1/4" NPT (only for "N" version)
Ⓖ	ADJUSTING RANGE
	A = 0-2 bar
	B = 0-4 bar
	C = 0-8 bar
	D = 0-12 bar
Ⓣ	TYPE
	= Standard *
	F = Controlled refiel + improved relieving
	L = no relieving
	R = Improved relieving
Ⓞ	OPTIONS
	= Standard *
	K = Lockable version

* no additional letter required

Modular pressure regulator including manometer (M)

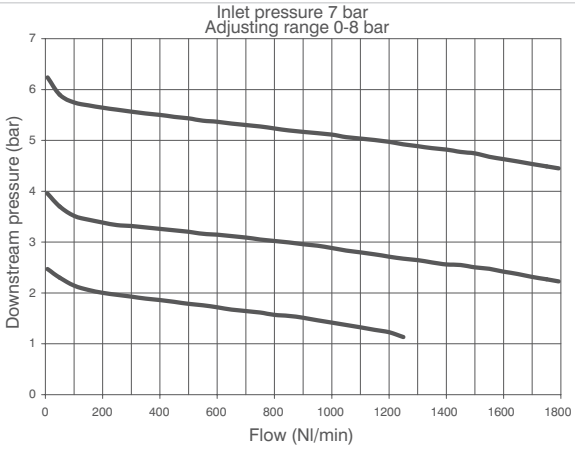




Lockable version
Detail

Example : T171BMC : size 1, Regulator including gauge with Technopolymer threads, G1/4" connections, 0 to 8 bar adjusting range

Flow rate curves



Operational characteristics

- Diaphragm pressure regulator with relieving.
- Low hysteresis rolling diaphragm.
- Balanced system.
- Available in four pressure ranges up to 12 bar.
- Operating knob can be locked in position by pressing it down once the desired P2 (regulated pressure) pressure value is achieved.
- G 1/8" output connection positioned on the opposite side of the built in gauge.
- Air supply can be applied by both directions.
- Integrated manometer 0-12 bar as standard (for 0-8 and 0-12 bar range) and 0-4 bar (for 0-2 and 0-4 range)

Note

The pressure must be always regulating while increasing. For a more precise regulation and higher sensibility, the use of a regulator with a pressure range as close as possible to the regulated pressure is recommended.

Technical characteristics

Connections	G 1/8" - G 1/4"
Max. inlet pressure	13 bar
Working temperature	-5°C +50°C
Weight with Technopolymer threads	gr. 140
Weight with threaded inserts	gr. 150
Pressure range	0-2 bar / 0-4 bar 0-8 bar / 0-12 bar
Assembly positions	Indifferent
Max. fitting torque (with Technopolymer threads)	G1/8" = 4 Nm G1/4" = 9 Nm
Max. fitting torque (with threaded inserts)	G1/8" = 15 Nm G1/4" = 20 Nm

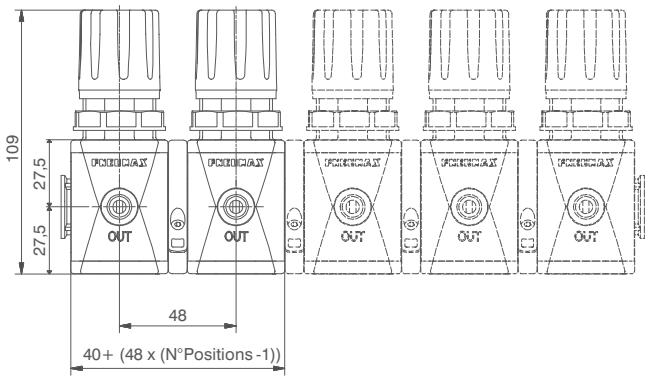
Ordering code

Ⓥ171ⒸMⒼⓉⓄ

Ⓥ	VERSION
	N = Metal inserts
	T = Technopolymer thread
Ⓒ	CONNECTIONS
	A = G1/8" (only for "N" version)
	B = G1/4"
	C = G1/4" NPT (only for "N" version)
Ⓖ	ADJUSTING RANGE
	A = 0-2 bar
	B = 0-4 bar
	C = 0-8 bar
	D = 0-12 bar
Ⓣ	TYPE
	= Standard *
	F = Controlled refiel + improved relieving
	L = no relieving
	R = Improved relieving
Ⓞ	OPTIONS
	= Standard *
	K = Lockable version

* no additional letter required

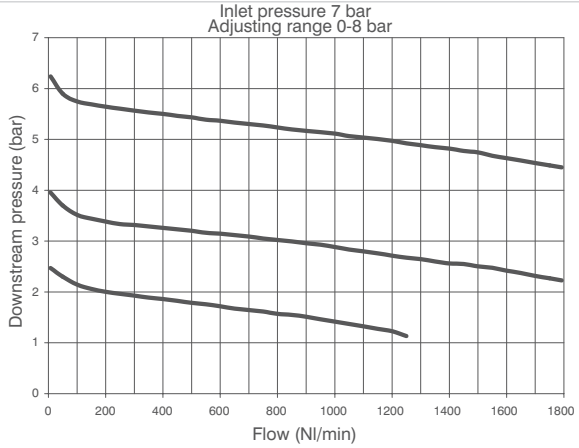
Manifold pressure regulators



Example: GT171BB4CCCC : Combined group comprising 4 size 1 Regulators Technopolymer threads, G1/4" connections and 0 to 8 bar adjusting range

3

Flow rate curves



Operational characteristics

- Inlet pressure common for the whole manifold of regulator.
- A maximum of 6 regulators can be mounted
- Air supply can be applied by both directions.

Note

The pressure must be always regulating while increasing. For a more precise regulation and higher sensibility, the use of a regulator with a pressure range as close as possible to the regulated pressure is recommended.

Technical characteristics

Connections	G 1/8" - G 1/4"
Max. inlet pressure	13 bar
Working temperature	-5°C +50°C
Pressure range	0-2 bar / 0-4 bar 0-8 bar / 0-12 bar
Assembly positions	indifferent
Max. fitting torque (with Technopolymer threads)	G1/8" = 4 Nm G1/4" = 9 Nm
Max. fitting torque (with threaded inserts)	G1/8" = 15 Nm G1/4" = 20 Nm

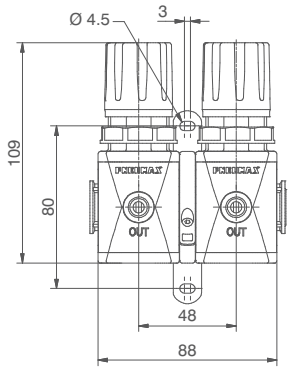
Ordering code

GV171CTNGGGGGG

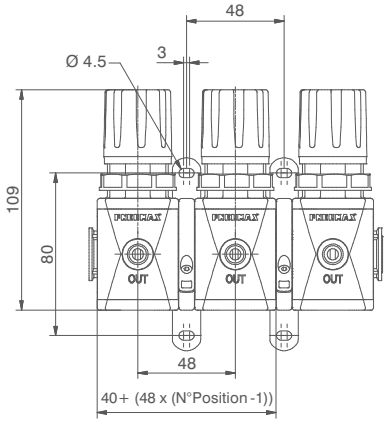
V	VERSION
	N = Metal inserts
	T = Technopolymer thread
C	CONNECTIONS
	A = G1/8" (only for "N" version)
	B = G1/4"
	C = G1/4" NPT (only for "N" version)
T	TYPE
	B = Standard with flanges X
	M = Manometer included with flanges X
	W = Standard with flanges Y
	Z = Manometer included with flanges Y
N	NUMBER REGULATORS
	2 = 2 regulators
	3 = 3 regulators
	4 = 4 regulators
	5 = 5 regulators
	6 = 6 regulators
G	ADJUSTING RANGE 1
	A = 0-2 bar
	B = 0-4 bar
	C = 0-8 bar
	D = 0-12 bar
G	ADJUSTING RANGE 2
	A = 0-2 bar
	B = 0-4 bar
	C = 0-8 bar
	D = 0-12 bar
G	ADJUSTING RANGE 3
	A = 0-2 bar
	B = 0-4 bar
	C = 0-8 bar
	D = 0-12 bar
G	ADJUSTING RANGE 4
	A = 0-2 bar
	B = 0-4 bar
	C = 0-8 bar
	D = 0-12 bar
G	ADJUSTING RANGE 5
	A = 0-2 bar
	B = 0-4 bar
	C = 0-8 bar
	D = 0-12 bar
G	ADJUSTING RANGE 6
	A = 0-2 bar
	B = 0-4 bar
	C = 0-8 bar
	D = 0-12 bar

Dimensions with Y type flanges

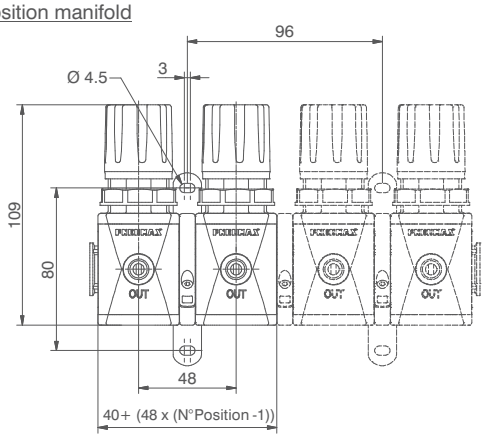
2 position manifold



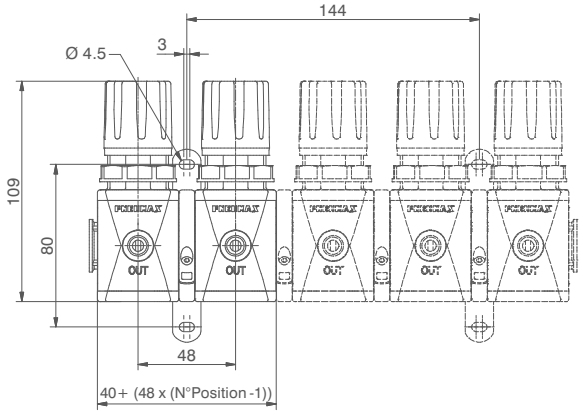
3 position manifold



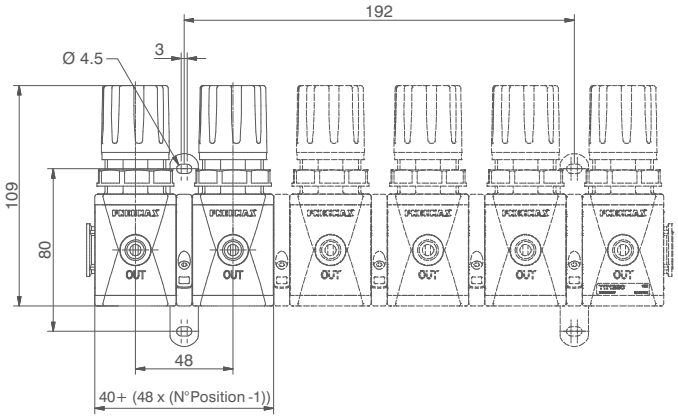
4 position manifold



5 position manifold

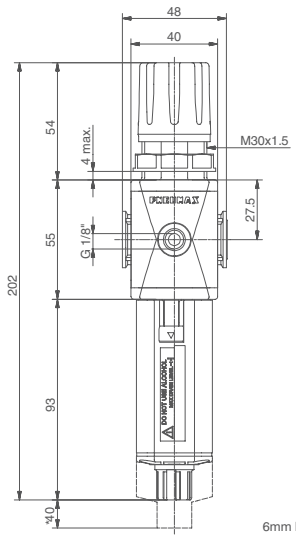


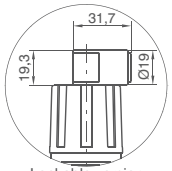
6 position manifold



3

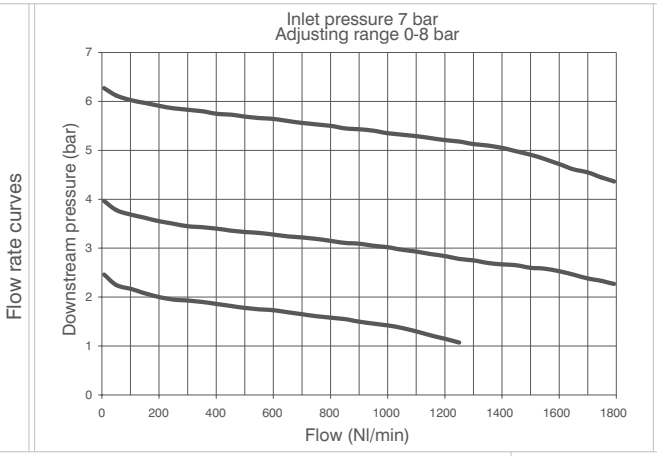
Filter-Regulator (E)

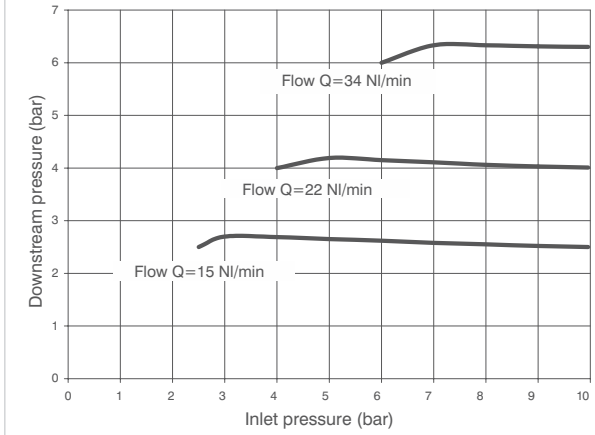




*Bowl removal maximum height

Example : T171BEBC : size 1, Filter-regulator with Technopolymer threads, G1/4" connections, 20 μm filtering pore size, 0 to 8 bar adjusting range





Operational characteristics

- Filter - diaphragm pressure regulator with relieving.
- Low hysteresis rolling diaphragm.
- Balanced system.
- Double filtering action: air flow centrifugation and filter element.
- Filtering element made of HDPE (high density polyethylene) available in three different filtration grades (5μm, 20μm and 50μm) can be regenerated by washing it or replaced.
- Transparent bowl made of polycarbonate with bowl protection guard.
- Bowl assembly via bayonet type quick coupling mechanism with safety button.
- Semi-automatic drain mounted as standard; automatic drain upon request
- Available in four pressure ranges up to 12 bar.
- Operating knob can be locked in position by pressing it down once the desired P2 (regulated pressure) pressure value is achieved.
- Fitted with panel mounting locking ring.

Note

The pressure must be always regulating while increasing. For a more precise regulation and higher sensibility, the use of a regulator with a pressure range as close as possible to the regulated pressure is recommended. In order to ensure adequate flow on the auto drain version it is recommended to use minimum a 6mm fitting.

Technical characteristics

Connections	G 1/8" - G 1/4"
Max. inlet pressure	13 bar
Minimum working pressure with automatic drain	0,5 bar
Maximum working pressure with automatic drain	10 bar
Working temperature	-5°C +50°C
Pressure gauge connections	G 1/8"
Weight with Technopolymer threads	gr. 190
Weight with threaded inserts	gr. 200
Pressure range	0-2 bar / 0-4 bar 0-8 bar / 0-12 bar
Filter pore size	5 μm - 20 μm - 50 μm
Bowl capacity	18 cm^3
Assembly positions	Vertical
Max. fitting torque (with Technopolymer threads)	G1/8" = 4 Nm G1/4" = 9 Nm
Max. fitting torque (with threaded inserts)	G1/8" = 15 Nm G1/4" = 20 Nm

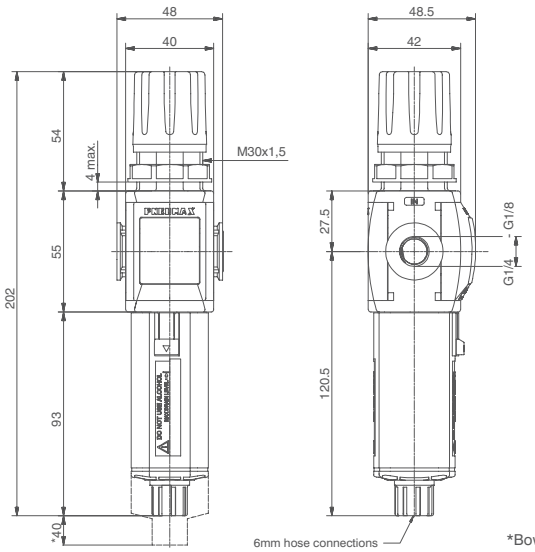
Ordering code

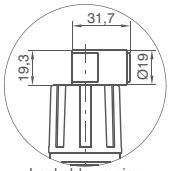
V171CESGTO

V	VERSION
	N = Metal inserts
	T = Technopolymer thread
C	CONNECTIONS
	A = G1/8" (only for "N" version)
	B = G1/4"
	C = G1/4" NPT (only for "N" version)
S	FILTER PORE SIZE
	A = 5 μm
	B = 20 μm
	C = 50 μm
G	ADJUSTING RANGE
	A = 0-2 bar
	B = 0-4 bar
	C = 0-8 bar
	D = 0-12 bar
T	TYPE
	= Standard *
	S = Automatic drain
O	OPTIONS
	= Standard *
	K = Lockable version

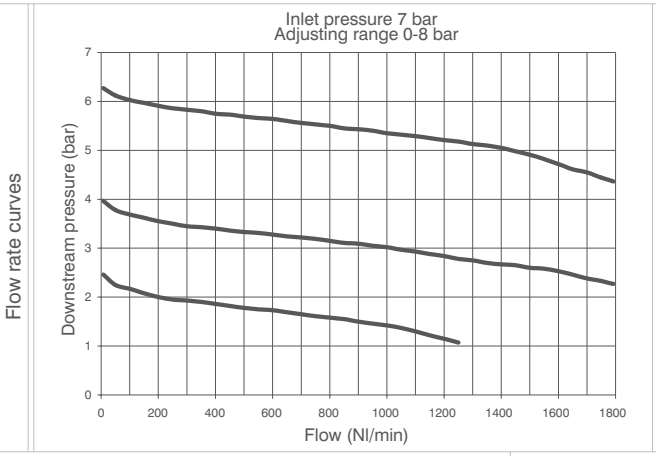
* no additional letter required

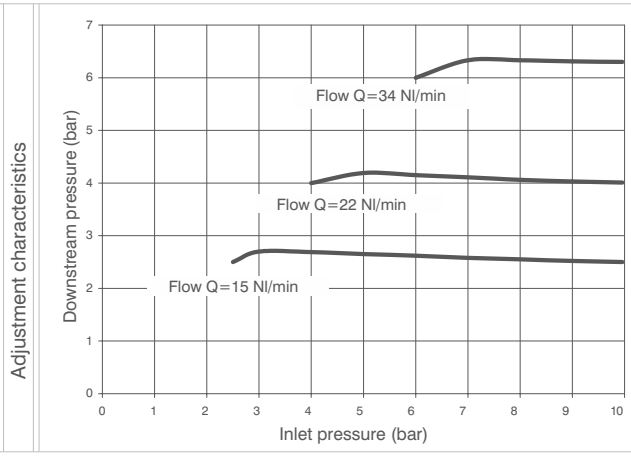
Filter-regulator including gauge (EM)(EW)





Example: T171BEMBC : size 1, Filter-Regulator including gauge with Technopolymer threads, G1/4" connections, with 20 μm filtering pore size, 0 to 8 bar adjusting range





Operational characteristics

- Filter - diaphragm pressure regulator with relieving.
- Low hysteresis rolling diaphragm.
- Balanced system.
- Double filtering action: air flow centrifugation and filter element.
- Filtering element made of HDPE (high density polyethylene) available in three different filtration grades (5μm, 20μm and 50μm) can be regenerated by washing it or replaced.
- Transparent bowl made off polycarbonate with bowl protection guard.
- Bowl assembly via bayonet type quick coupling mechanism with safety button.
- Semi-automatic drain mounted as standard; automatic drain upon request
- Available in four pressure ranges up to 12 bar.
- Operating knob can be locked in position by pressing it down once the desired P2 (regulated pressure) pressure value is achieved.
- Fitted with panel mounting locking ring.
- Integrated manometer 0-12 bar as standard (for 0-8 and 0-12 bar range) and 0-4 bar (for 0-2 and 0-4 range)

Note

The pressure must be always regulating while increasing. For a more precise regulation and higher sensibility, the use of a regulator with a pressure range as close as possible to the regulated pressure is recommended. In order to ensure adequate flow on the auto drain version it is recommended to use minimum a 6mm fitting.

Technical characteristics

Connections	G 1/8" - G 1/4"
Max. inlet pressure	13 bar
Minimum working pressure with automatic drain	0,5 bar
Maximum working pressure with automatic drain	10 bar
Working temperature	-5°C +50°C
Weight with Technopolymer threads	gr. 200
Weight with threaded inserts	gr. 210
Pressure range	0-2 bar / 0-4 bar 0-8 bar / 0-12 bar
Filter pore size	5 μm - 20 μm - 50 μm
Bowl capacity	18 cm^3
Assembly positions	Vertical
Max. fitting torque (with Technopolymer threads)	G1/4" = 9 Nm
Max. fitting torque (with threaded inserts)	G1/8" = 15 Nm G1/4" = 20 Nm

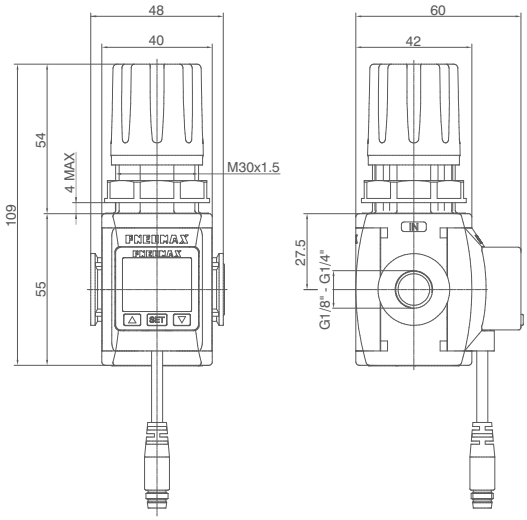
Ordering code

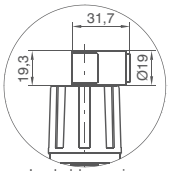
V171CEDSGTO

V	VERSION
	N = Metal inserts
	T = Technopolymer thread
C	CONNECTIONS
	A = G1/8" (only for "N" version)
	B = G1/4"
	C = G1/4" NPT (only for "N" version)
D	FLOW DIRECTION
	M = from left to right
	W = from right to left
S	FILTER PORE SIZE
	A = 5 μm
	B = 20 μm
	C = 50 μm
G	ADJUSTING RANGE
	A = 0-2 bar
	B = 0-4 bar
	C = 0-8 bar
	D = 0-12 bar
T	TYPE
	= Standard *
	S = Automatic drain
O	OPTIONS
	= Standard *
	K = Lockable version

* no additional letter required

Regulator with pressure switch (RP)(RZ)



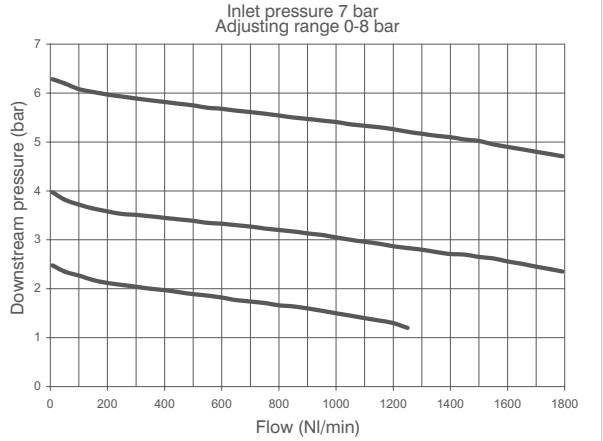


Lockable version
Detail

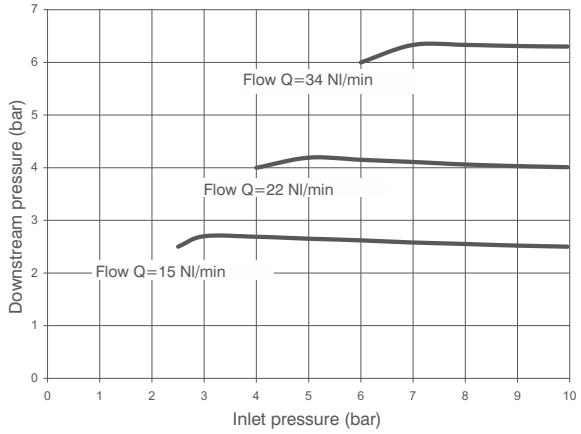
Example : T171BRPCA : size 1, Regulator with Technopolymer threads, G1/4" connections, 0 to 8 bar adjusting range, with pressure switch with M8 connector PNP

3

Flow rate curves



Adjustment characteristics



Operational characteristics

- Diaphragm pressure regulator with relieving.
- Low hysteresis rolling diaphragm.
- Balanced system.
- Available in four pressure ranges up to 12 bar.
- Operating knob can be locked in position by pressing it down once the desired P2 (regulated pressure) pressure value is achieved.
- Fitted with panel mounting locking ring.
- Pressure switch as standard

Note

The pressure must be always regulating while increasing. For a more precise regulation and higher sensibility, the use of a regulator with a pressure range as close as possible to the regulated pressure is recommended.

Technical characteristics

Connections	G 1/8" - G 1/4"
Max. inlet pressure	13 bar
Working temperature	0°C +50°C
Weight with Technopolymer threads	gr. 140
Weight with threaded inserts	gr. 150
Pressure range	0-2 bar / 0-4 bar 0-8 bar / 0-12 bar
Assembly positions	Indifferent
Max. fitting torque (with Technopolymer threads)	G1/4" = 9 Nm
Max. fitting torque (with threaded inserts)	G1/8" = 15 Nm G1/4" = 20 Nm

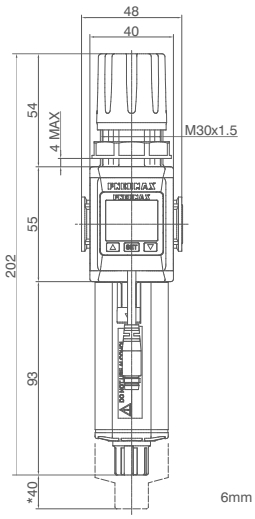
Ordering code

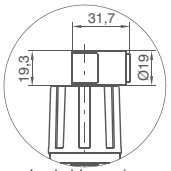
V171CRDGTOP

V	VERSION
	N = Metal inserts
	T = Technopolymer thread
C	CONNECTIONS
	A = G1/8" (only for "N" version)
	B = G1/4"
	C = G1/4" NPT (only for "N" version)
D	FLOW DIRECTION
	P = from left to right
	Z = from right to left
G	ADJUSTING RANGE
	A = 0-2 bar
	B = 0-4 bar
	C = 0-8 bar
	D = 0-12 bar
T	TYPE
	= Standard *
	F = Controlled refiel + improved relieving
	L = no relieving
	R = Improved relieving
O	OPTIONS
	= Standard *
	K = Lockable version
P	PRESSURE SWITCH OPTION
	A = Cable 150 mm+M8 PNP
	B = Cable 150 mm+M8 NPN
	C = Cable 2 mt. PNP
	D = Cable 2 mt. NPN

* no additional letter required

Filter regulator with pressure switch (EP)(EZ)

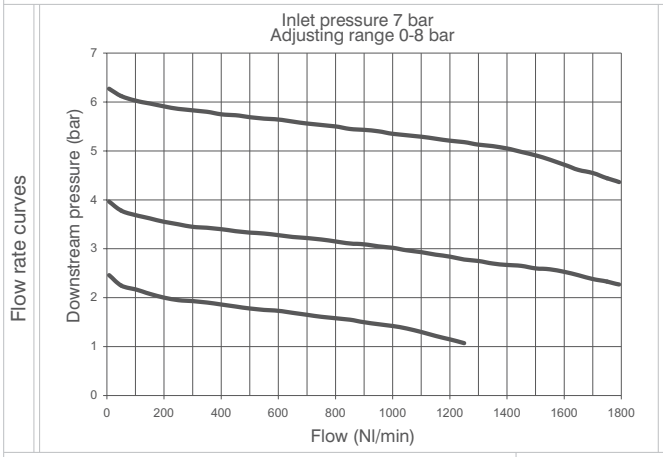


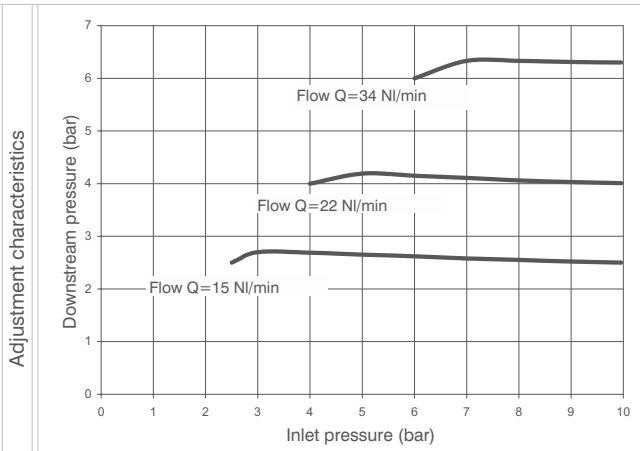


Lockable version
Detail

* Bowl removal maximum height

Example: T171BEPBCA : size 1, Filter-regulator with Technopolymer threads, G1/4" connections, 20 μm filtering pore size, 0 to 8 bar adjusting range, with pressure switch with M8 connector PNP





Operational characteristics

- Filter - diaphragm pressure regulator with relieving.
- Low hysteresis rolling diaphragm.
- Balanced system.
- Double filtering action: air flow centrifugation and filter element.
- Filtering element made of HDPE (high density polyethylene) available in three different filtration grades (5μm, 20μm and 50μm) can be regenerated by washing it or replaced.
- Transparent bowl made off polycarbonate with bowl protection guard.
- Bowl assembly via bayonet type quick coupling mechanism with safety button.
- Semi-automatic drain mounted as standard; automatic drain upon request
- Available in four pressure ranges up to 12 bar.
- Operating knob can be locked in position by pressing it down once the desired P2 (regulated pressure) pressure value is achieved.
- Fitted with panel mounting locking ring.
- Pressure switch as standard

Note

The pressure must be always regulating while increasing. For a more precise regulation and higher sensibility, the use of a regulator with a pressure range as close as possible to the regulated pressure is recommended. In order to ensure adequate flow on the auto drain version it is recommended to use minimum a 6mm fitting.

Technical characteristics

Connections	G 1/8" - G 1/4"
Max. inlet pressure	13 bar
Minimum working pressure with automatic drain	0,5 bar
Maximum working pressure with automatic drain	10 bar
Working temperature	0°C +50°C
Weight with Technopolymer threads	gr. 200
Weight with threaded inserts	gr. 210
Pressure range	0-2 bar / 0-4 bar 0-8 bar / 0-12 bar
Filter pore size	5 μm - 20 μm - 50 μm
Bowl capacity	18 cm^3
Assembly positions	Vertical
Max. fitting torque (with Technopolymer threads)	G1/4" = 9 Nm
Max. fitting torque (with threaded inserts)	G1/8" = 15 Nm G1/4" = 20 Nm

Ordering code

V171CEDSGTOP

V	VERSION
	N = Metal inserts
	T = Technopolymer thread
C	CONNECTIONS
	A = G1/8"(only for "N" version)
	B = G1/4"
	C = G1/4" NPT(only for "N" version)
D	FLOW DIRECTION
	P = from left to right
	Z = from right to left
S	FILTER PORE SIZE
	A = 5 μm
	B = 20 μm
	C = 50 μm
G	ADJUSTING RANGE
	A = 0-2 bar
	B = 0-4 bar
	C = 0-8 bar
	D = 0-12 bar
T	TYPE
	= Standard *
	S = Automatic drain
O	OPTIONS
	= Standard *
	K = Lockable version
P	PRESSURE SWITCH OPTION
	A = Cable 150 mm+M8 PNP
	B = Cable 150 mm+M8 NPN
	C = Cable 2 mt. PNP
	D = Cable 2 mt. NPN

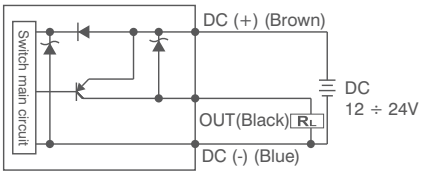
* no additional letter required

CHARACTERISTICS

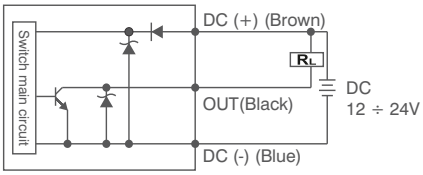
- 3 color digital LCD display, easy readout
- 4 units of measurement for pressure indication
- PNP and NPN output
- N.O. and N.C. output contact
- Not available individually, but only with a Regulator or a Filter-regulator

OUTPUT CIRCUIT WIRING DIAGRAMS

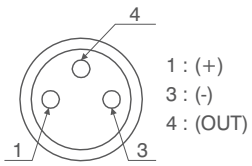
PNP output



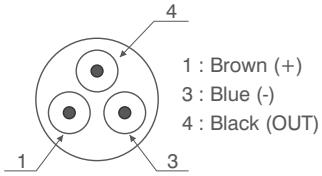
NPN output



M8 CONNECTOR PIN LAY OUT



3 WIRES CABLE LAY OUT



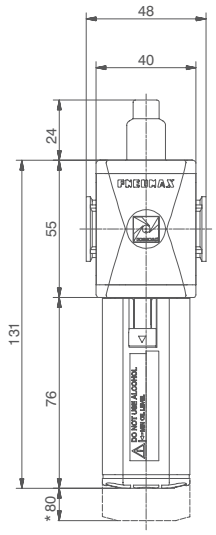
Cable ordering code

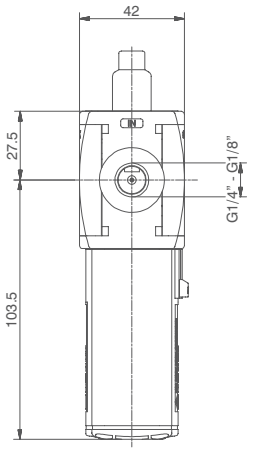
MCH1	cable 3 wires l=2,5m with M8 connector
MCH2	cable 3 wires l=5m with M8 connector
MCH3	cable 3 wires l=10m with M8 connector

Connector

TECHNICAL CHARACTERISTICS	
Adjusting range	0 ÷ 10 bar / 0 ÷ 1MPa
Max. inlet pressure	15 bar / 1,5 MPa
Fluid	Filtered and dehumidified air
Display unit of measurement	MPa - kgf/cm² - bar - psi
Supply voltage	12 ÷ 24 VDC
Current consumption	≤40mA (without load)
Digital output type	NPN - PNP
Type of contact	Normally Open - Normally Closed
Max. load current	125 mA
Digital output activation mode	single threshold with fixed hysteresis - window with fixed hysteresis - window without hysteresis
Digital output activation time	0.05s - 0.25s - 0.5s - 1s - 2s - 3s (selections for chattering-proof function)
Display characteristics	Double 3 1/2 digit display Digital output status indication Three-pushbuttons touchpad
Indicator accuracy	≤±2% F.S. ± 1 digit
Protection grade	IP 40
Temperature	0 ÷ 50 °C
Cable section	3 x 0,129mm², Ø4 mm, PVC

Lubricator (L)

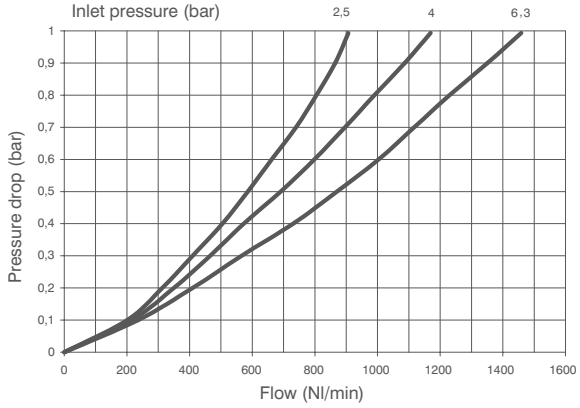




*Bowl removal maximum height

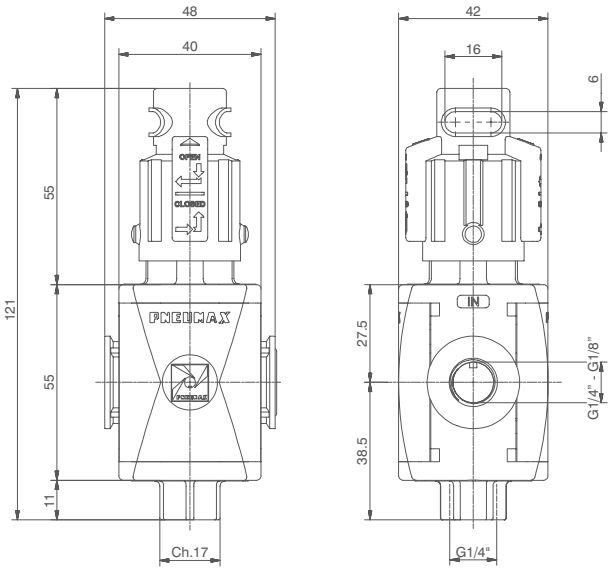
Example : T171BL : size 1, Lubricator with Technopolymer threads, G1/4" connections

Flow rate curves



Operational characteristics	Technical characteristics		
- Oil mist lubrication with variable orifice size in function of the flow rate - Oil quantity regulation mechanism and oil quantity visualization dome made of polycarbonate. - Transparent bowl made off polycarbonate with bowl protection guard. - Bowl assembly via bayonet type quick coupling mechanism with safety button.	Connections	G 1/8" - G 1/4"	Ordering code
	Max. inlet pressure	13 bar	**Ⓥ171Ⓒ L**
	Working temperature	-5°C +50°C	
	Weight with Technopolymer threads	gr. 110	Ⓥ VERSION N = Metal inserts T = Technopolymer thread
	Weight with threaded inserts	gr. 120	
	Indicative oil drip rate	1 drop every 300/600 Nl	Ⓒ CONNECTIONS A = G1/8" (only for "N" version) B = G1/4" C = G1/4" NPT (only for "N" version)
	Oil type	FD22 - HG32	
Note	Bowl capacity	36 cm^3	
Install as close as possible to the point o fuse Do not use alcohol , deterging oils or solvents.	Assembly positions	Vertical	
	Max. fitting torque (with Technopolymer threads)	G1/4" = 9 Nm	
	Max. fitting torque (with threaded inserts)	G1/8" = 15 Nm G1/4" = 20 Nm	
	Min. operational flow at 6,3 bar	40 Nl/min.	

Shut-off valve (VL)



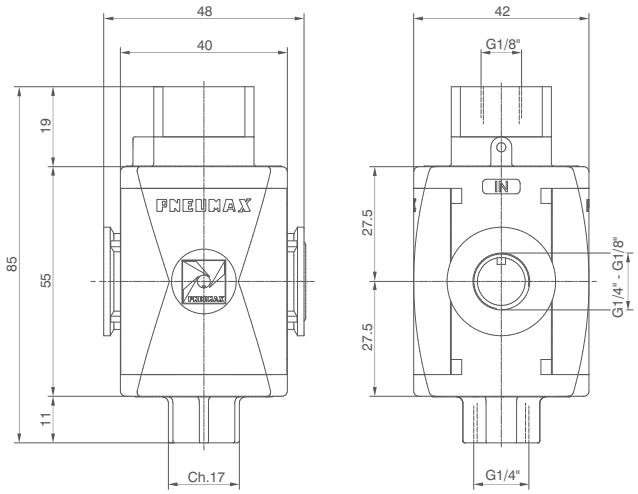
Example: T171BVL : size 1, Shut-off valve with Technopolymer threads, G1/4" connections

3

Operational characteristics	Technical characteristics		
- Manual operated 3 ways poppet valve. - Double handle action for valve opening: pushing and rotating (clockwise). - The valve can be closed and the down stream circuit depressurized by rotating anticlockwise the knob. - Knob lockable with three padlocks.	Connections	G 1/8" - G 1/4"	Ordering code
	Max. inlet pressure	13 bar	**ⓋT171ⒸVL**
	Discharge connection	G1/4"	
	Working temperature	-5°C +50°C	
	Weight with Technopolymer threads	gr. 100	
	Weight with threaded inserts	gr. 110	
	Assembly positions	Indifferent	
	Handle opening and closing angle	90°	
	Max. fitting torque (with Technopolymer threads)	G1/4" = 9 Nm	
	Max. fitting torque (with threaded inserts)	G1/8" = 15 Nm G1/4" = 20 Nm	
	Nominal flow rate at 6 bar with Δp=1	1400 Nl/min.	
	Exhaust nominal flow rate at 6 bar with Δp=1	550 Nl/min.	

Ⓥ	VERSION
	N = Metal inserts
	T = Technopolymer thread
Ⓒ	CONNECTIONS
	A = G1/8" (only for "N" version)
	B = G1/4"
	C = G1/4" NPT (only for "N" version)

Pneumatic shut-off valve (VP)



Example: T171BVP : size 1, Pneumatic shut-off valve with Technopolymer threads, G1/4" connections

Operational characteristics	Technical characteristics	
- Pneumatic operated 3 ways poppet valve. - When the pneumatic signal is removed the valves exhaust the pneumatic circuit	Connections	G 1/8" - G 1/4"
	Discharge connection	G1/4"
	Pilot port size	G1/8"
	Working temperature	-5°C +50°C
	Weight with technopolymer threads	gr. 94
	Weight with threaded inserts	gr. 99
	Assembly positions	Indifferent
	Min. pressure working	3 bar
	Max. pressure working	10 bar
	Max. fitting torque (with Technopolymer threads)	G1/4" = 9 Nm
	Max. fitting torque (with threaded inserts)	G1/8" = 15 Nm G1/4" = 20 Nm
	Nominal flow rate at 6 bar with Δp=1	1400 Nl/min.
	Exhaust nominal flow rate at 6 bar with Δp=1	550 Nl/min.

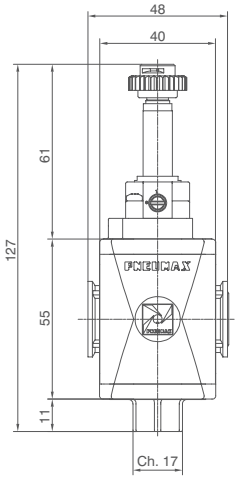
Ordering code

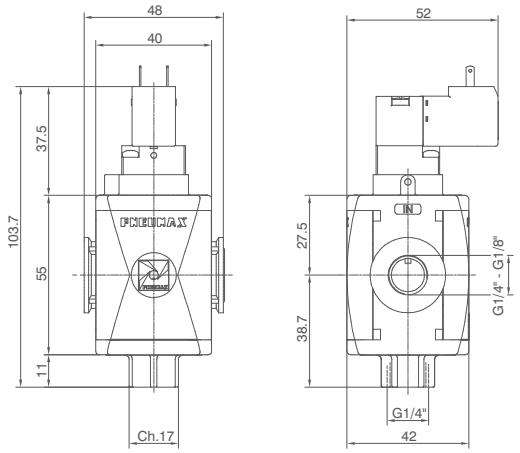
Ⓥ171ⒸVP

Ⓥ	VERSION
	N = Metal inserts
	T = Technopolymer thread
Ⓒ	CONNECTIONS
	A = G1/8" (only for "N" version)
	B = G1/4"
	C = G1/4" NPT (only for "N" version)

3

Electric shut-off valve (VE)





Example : T171BVEB2 : size 1, Electric shut-off valve, with M2 pilot without coil, Technopolymer threads, G1/4" connections

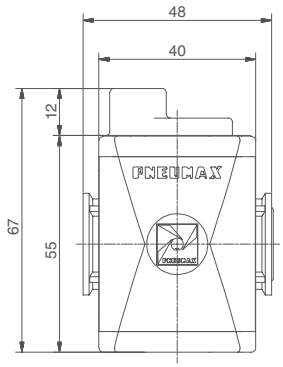
Operational characteristics	Technical characteristics	
- Solenoid operated 3 ways poppet valve. - The model fitted with 15 mm pilots uses pilots series N33_0A and N33_0E (1 Watt)	Supply and operating connections	G 1/8" - G 1/4"
	Discharge connections	G 1/4"
	Working temperature	-5°C +50°C
	Weight with Technopolymer threads	130 g
	Weight with threaded inserts	140 g
	Assembly positions	Indifferent
	Min. Pressure working	3 bar
	Max. Pressure working	10 bar
	Max. fitting torque (with Technopolymer threads)	G1/4" = 9 Nm
	Max. fitting torque (with threaded inserts)	G1/8" = 15 Nm G1/4" = 20 Nm
	Nominal flow rate at 6 bar with Δp=1	1400 Nl/min.
	Exhaust nominal flow rate at 6 bar with Δp=1	550 Nl/min.

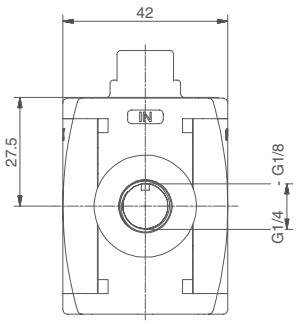
Ordering code

Ⓥ171ⒸVEⒶ

Ⓥ	VERSION
	N = Metal inserts
	T = Technopolymer thread
Ⓒ	CONNECTIONS
	A = G1/8" (only for "N" version)
	B = G1/4"
	C = G1/4" NPT (only for "N" version)
Ⓐ	15 mm COIL VOLTAGE
	A4 = 12 V DC
	A5 = 24 V DC
	A6 = 24 V AC (50-60 Hz)
	A7 = 110 V AC (50-60 Hz)
	A8 = 220 V AC (50-60 Hz)
	A9 = 24 V DC (1 Watt)
	22 mm COIL VOLTAGE
	B2 = Without coil M2 mechanic
	B4 = 12 V DC
	B5 = 24 V DC
	B6 = 24 V AC (50-60 Hz)
	B7 = 110 V AC (50-60 Hz)
	B8 = 220 V AC (50-60 Hz)
	B9 = 24 V DC (2 Watt)
	30 mm COIL VOLTAGE
	C5 = 24 V DC
	C6 = 24 V AC (50-60 Hz)
	C7 = 110 V AC (50-60 Hz)
	C8 = 230 V AC (50-60 Hz)
	C9 = 24 V DC (2 Watt)

Progressive start-up valve (AP)





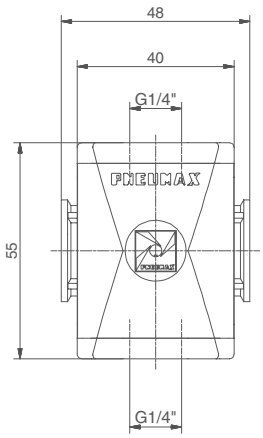
Example : T171BAP : size 1, Progressive start-up valve with Technopolymer threads, G1/4" connections

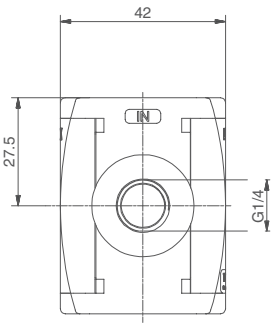
Operational characteristics	Technical characteristics		Ordering code
- Down stream circuit filling time regulated via a built in flow regulator. - Full pressure is allowed once the down stream circuit pressure reaches 50% of the inlet pressure.	Connections	G 1/8" - G 1/4"	**Ⓥ171Ⓒ AP**
	Max. inlet pressure	13 bar	
	Working temperature	-5°C +50°C	
	Weight with Technopolymer threads	gr. 70	
	Weight with threaded inserts	gr. 80	
	Max. fitting torque (with Technopolymer threads)	G1/4" = 9 Nm	
	Max. fitting torque (with threaded inserts)	G1/8" = 15 Nm G1/4" = 20 Nm	
	Assembly positions	Indifferent	
	Min. pressure working	2,5 bar	
	Nominal flow rate at 6 bar with Δp=1	1400 Nl/min.	
	Fully open built in flow regulator flow rate	75 Nl/min.	

Ⓥ VERSION
N = Metal inserts
T = Technopolymer thread

Ⓒ CONNECTIONS
A = G1/8" (only for "N" version)
B = G1/4"
C = G1/4" NPT (only for "N" version)

Air intake (PA)

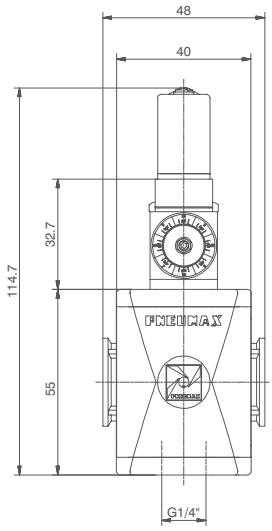


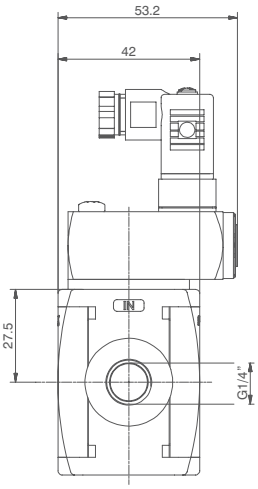


Example : T171BPA : size 1, Air intake with Technopolymer threads, G1/4" connections

Operational characteristics	Technical characteristics		Ordering code
- Available with two G1/4" threaded connections. **Attention** For this product are available only Technopolymer connections	Connections	G 1/4"	**T171BPA**
	Max. inlet pressure	13 bar	
	Working temperature	-5°C +50°C	
	Weight	gr. 52	
	Assembly positions	Indifferent	
	Max. fitting torque (with Technopolymer threads)	G1/4" = 9 Nm	

Pressure switch (PP)



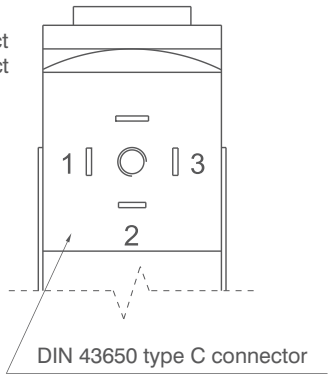


Example: T171BPP : Size 1, Pressure switch with Technopolymer threads, G1/4" connections

Operational characteristics	Technical characteristics		
- Built in adjustable pressure switch (2 to 10 bar) with electrical connection. - G1/4" threaded connection on the bottom face. - The electrical connection is made by mean of a 15 mm connector DIN 43650 type C. The microswitch contact could be normally closed or open (change overswitch). **Attenction** For this product are available only Technopolymer connections	Connections	G 1/4"	Ordering code
	Max. inlet pressure	13 bar	
	Working temperature	-5°C +50°C	**T171BPP**
	Weight	gr. 138	
	Microswitch capacity	1A	
	Grade of protection (with connector assembled)	IP 65	
	Adjusting range	2 -10 bar	
	Assembly positions	Indifferent	
	Max. fitting torque (with Technopolymer threads)	G1/4" = 9 Nm	
	Microswitch maximum tension	250 VAC	

Connection

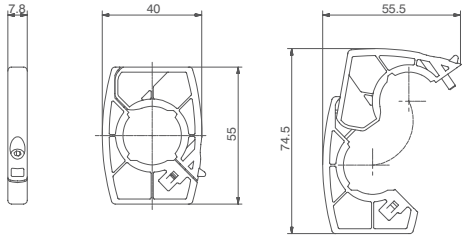
1 = neutral
2 = N.C. contact
3 = N.O. contact



Flange X

Ordering code

T171X

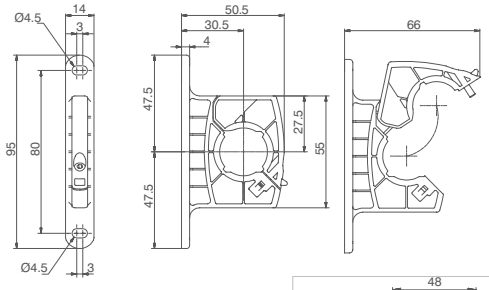


Weight 12 gr.
Example : T171X : Size 1 coupling flange
-Enables the quick connnection of two functions

Flange Y

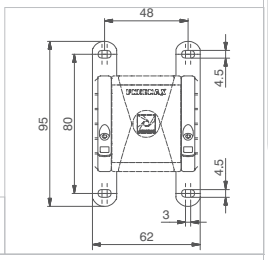
Ordering code

T171Y



Weight 18 gr.
Example : T171Y : Size 1 coupling flange with mounting holes
- Used to couple together two elements and
  to panel mount them.
- Used to panel mount one single element.

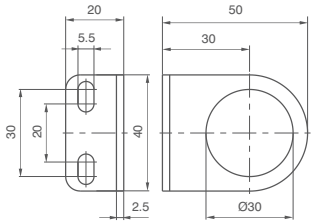
Single unit panel mounting dimensions



Fixing bracket

Ordering code

17150



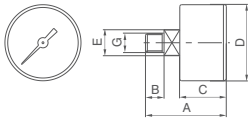
Weight 32 gr.
- Allows for regulators and filter regulators to be panel mounted.

Pressure gauge

Ordering code

17070Ⓥ.Ⓢ

Ⓥ	VERSION
	A = Dial Ø40
	B = Dial Ø50
Ⓢ	SCALE
	A = Scale 0-4 bar
	B = Scale 0-6 bar
	C = Scale 0-12 bar

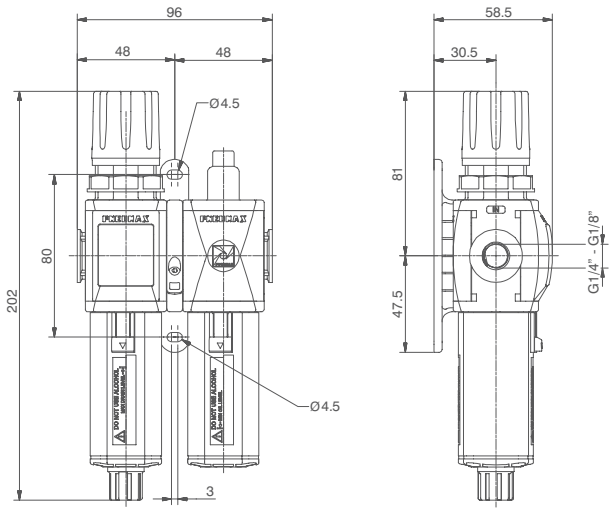


DIMENSIONS

CODE	A	B	C	D	E	G	Weight gr.
17070A	44	10	26	41	14	1/8"	60
17070B	45	10	27	49	14	1/8"	80

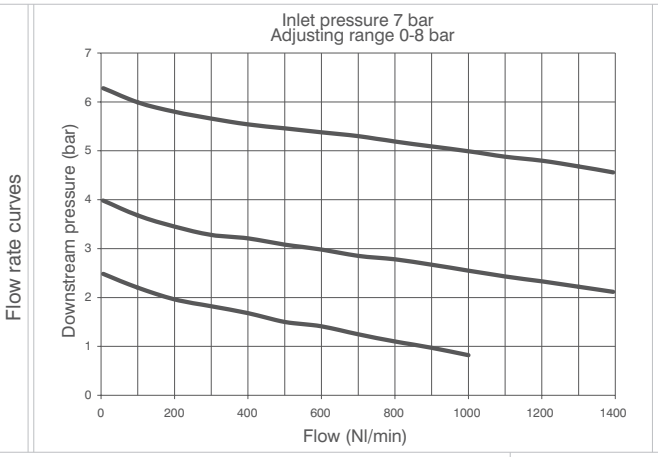
3

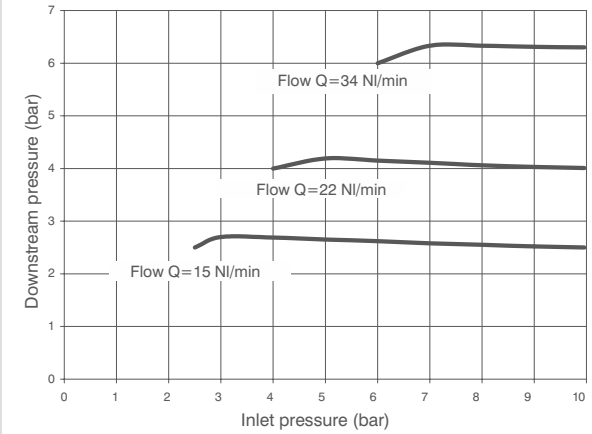
Service unit assembled (EM+L) (E+L) (EW+L)



Example : GT171BHG : size 1, combined group comprising Filter-regulator and Lubricator, Technopolymer threads, G1/4" connections, 0 to 8 bar adjusting range and 20 μm filter pore size

3





Operational characteristics

Combined group comprising Filter-regulator with built in manometer and Lubricator assembled with a (Y) type coupling kit for panel mounting.
Integrated manometer 0-12 bar as standard (for 0-8 and 0-12 bar range) and 0-4 bar (for 0-2 and 0-4 range)

Note

The pressure must be always regulating while increasing. For a more precise regulation and higher sensibility, the use of a regulator with a pressure range as close as possible to the regulated pressure is recommended.

Technical characteristics

Connections	G 1/8" - G 1/4"
Max. inlet pressure	13 bar
Working temperature	-5°C +50°C
Weight with Technopolymer threads	gr. 328
Weight with threaded inserts	gr. 348
Pressure range	0-2 bar / 0-4 bar 0-8 bar / 0-12 bar
Filter pore size	5 μm - 20 μm - 50 μm
Bowl capacity	18 cm^3
Indicative oil drip rate	1 drop every 300/600 Nl
Oil type	FD22 - HG32
Bowl capacity	36 cm^3
Assembly positions	Vertical
Max. fitting torque (with Technopolymer threads)	G1/4" = 9 Nm
Max. fitting torque (with threaded inserts)	G1/8" = 15 Nm G1/4" = 20 Nm
Min. operational flow at 6,3 bar	40 Nl/min.

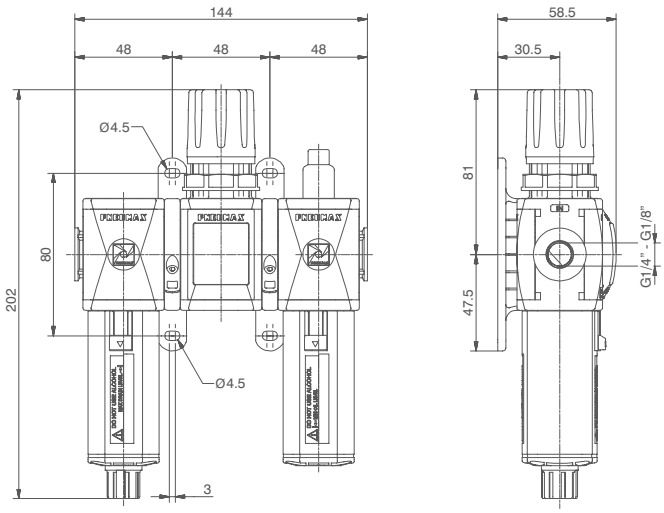
Ordering code

GV171CTSOD

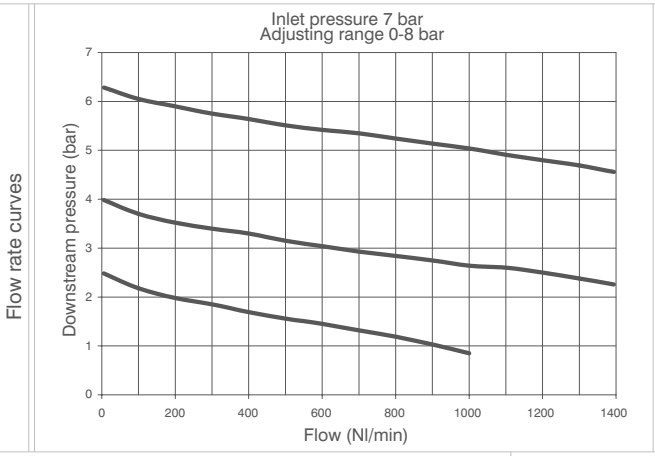
V	VERSION
	N = Metal inserts
	T = Technopolymer thread
C	CONNECTIONS
	A = G1/8" (only for "N" version)
	B = G1/4"
	C = G1/4" NPT (only for "N" version)
T	TYPE
	H = Built in gauge
	J = G1/8" gauge connection
S	FILTER PORE SIZE ADJUSTING RANGE
	C = 5 μm / 0-8 bar
	D = 5 μm / 0-12 bar
	G = 20 μm / 0-8 bar
	H = 20 μm / 0-12 bar
	N = 50 μm / 0-8 bar
	P = 50 μm / 0-12 bar
O	OPTIONS
	= Standard *
	S = Automatic drain
D	FLOW DIRECTION
	= Standard * (from left to right)
	W = from right to left

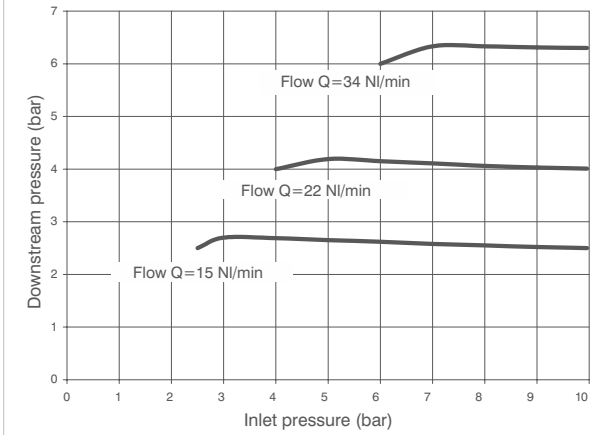
* no additional letter required

Service unit assembled (F+RM+L) (F+R+L) (F+RW+L)



Example : GT171BKG : size 1 combined group comprising Filter, Regulator and Lubricator Technopolymer threads, G1/4" connections, 0 to 8 bar adjusting range and 20 μm filter pore size





Operational characteristics

Combined group comprising Filter, Regulator with built in manometer and Lubricator assembled with two (Y) type coupling kits for panel mounting.
Integrated manometer 0-12 bar as standard (for 0-8 and 0-12 bar range) and 0-4 bar (for 0-2 and 0-4 range)

Note

The pressure must be always regulating while increasing. For a more precise regulation and higher sensibility, the use of a regulator with a pressure range as close as possible to the regulated pressure is recommended.

Technical characteristics

Connections	G 1/8" - G 1/4"
Max. inlet pressure	13 bar
Working temperature	-5°C +50°C
Weight with Technopolymer threads	gr. 406
Weight with threaded inserts	gr. 436
Pressure range	0-2 bar / 0-4 bar 0-8 bar / 0-12 bar
Filter pore size	5 μm - 20 μm - 50 μm
Bowl capacity	18 cm^3
Indicative oil drip rate	1 drop every 300/600 Nl
Oil type	FD22 - HG32
Bowl capacity	36 cm^3
Assembly positions	Vertical
Max. fitting torque (with Technopolymer threads)	G1/4" = 9 Nm
Max. fitting torque (with threaded inserts)	G1/8" = 15 Nm G1/4" = 20 Nm
Min. operational flow at 6,3 bar	40 Nl/min.

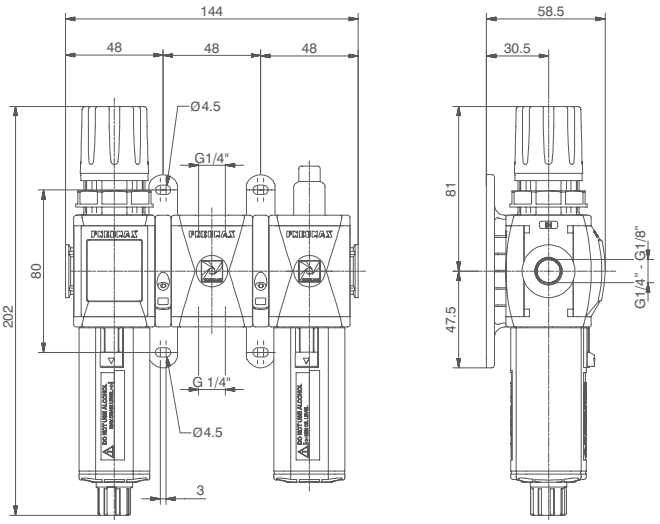
Ordering code

GⓋ171ⒸⓉⓈⓄⒹ

Ⓥ	VERSION
	N = Metal inserts
	T = Technopolymer thread
Ⓒ	CONNECTIONS
	A = G1/8" (only for "N" version)
	B = G1/4"
	C = G1/4" NPT (only for "N" version)
Ⓣ	TYPE
	K = Built in gauge
	T = G1/8" gauge connection
Ⓢ	FILTER PORE SIZE ADJUSTING RANGE
	C = 5 μm / 0-8 bar
	D = 5 μm / 0-12 bar
	G = 20 μm / 0-8 bar
	H = 20 μm / 0-12 bar
	N = 50 μm / 0-8 bar
	P = 50 μm / 0-12 bar
Ⓞ	OPTIONS
	= Standard *
	S = Automatic drain
Ⓓ	FLOW DIRECTION
	= Standard (from left to right)
	W = from right to left

* no additional letter required

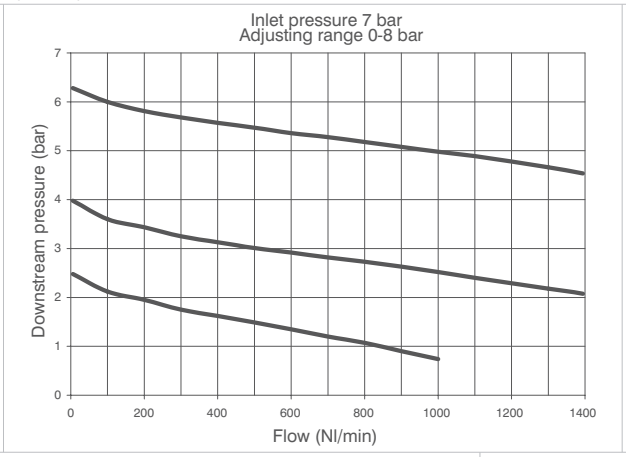
Service unit assembled (EM+PA+L) (E+PA+L) (EW+PA+L)



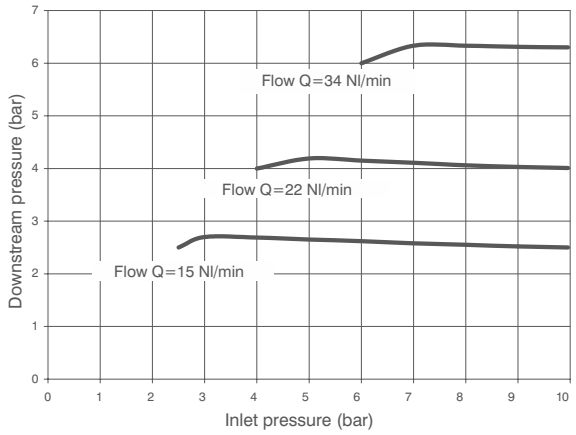
Example : GT171BNG : size 1 combined group comprising Filter-regulator, Air intake and Lubricator Technopolymer threads, G1/4" connections, 0 to 8 bar adjusting range and 20 μm filter pore size

3

Flow rate curves



Adjustment characteristics



Operational characteristics

Combined group comprising Filter-regulator with built in manometer, Air intake and Lubricator assembled with two (Y) type coupling kits for panel mounting.
Integrated manometer 0-12 bar as standard (for 0-8 and 0-12 bar range) and 0-4 bar (for 0-2 and 0-4 range)

Note

The pressure must be always regulating while increasing. For a more precise regulation and higher sensibility, the use of a regulator with a pressure range as close as possible to the regulated pressure is recommended.

Technical characteristics

Connections	G 1/8" - G 1/4"
Max. inlet pressure	13 bar
Working temperature	-5°C +50°C
Weight with Technopolymer threads	gr. 398
Weight with threaded inserts	gr. 418
Pressure range	0-2 bar / 0-4 bar 0-8 bar / 0-12 bar
Filter pore size	5 μm - 20 μm - 50 μm
Bowl capacity	18 cm^3
Indicative oil drip rate	1 drop every 300/600 Nl
Oil type	FD22 - HG32
Bowl capacity	36 cm^3
Assembly positions	Vertical
Max. fitting torque (with Technopolymer threads)	G1/4" = 9 Nm
Max. fitting torque (with threaded inserts)	G1/8" = 15 Nm G1/4" = 20 Nm
Min. operational flow at 6,3 bar	40 Nl/min.

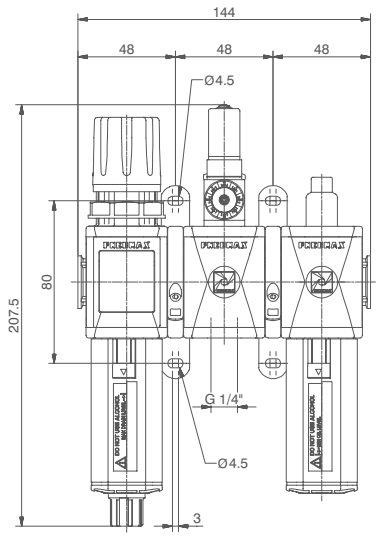
Ordering code

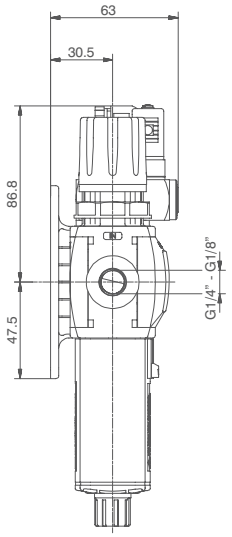
GV171CTSOD

V	VERSION
	N = Metal inserts
	T = Technopolymer thread
C	CONNECTIONS
	A = G1/8" (only for "N" version)
	B = G1/4"
	C = G1/4" NPT (only for "N" version)
T	TYPE
	N = Built in gauge
	P = G1/8" gauge connection
S	FILTER PORE SIZE ADJUSTING RANGE
	C = 5 μm / 0-8 bar
	D = 5 μm / 0-12 bar
	G = 20 μm / 0-8 bar
	H = 20 μm / 0-12 bar
	N = 50 μm / 0-8 bar
	P = 50 μm / 0-12 bar
O	OPTIONS
	= Standard *
	S = Automatic drain
D	FLOW DIRECTION
	= Standard (from left to right)
	W = from right to left

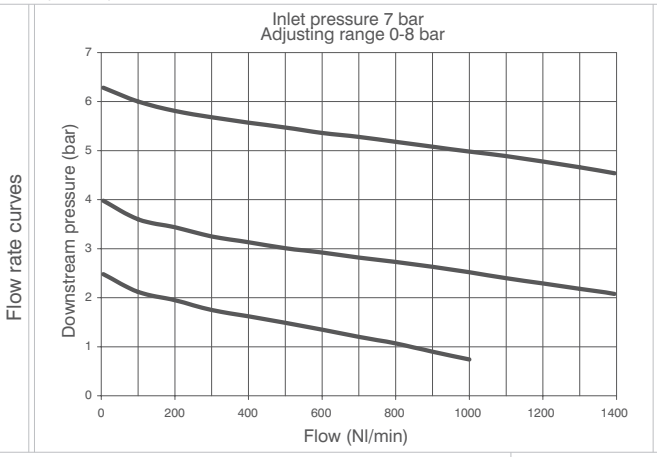
* no additional letter required

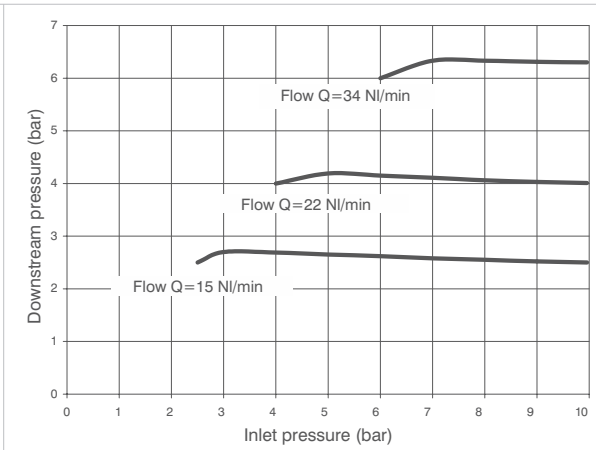
Service unit assembled (EM+PP+L) (E+PP+L) (EW+PP+L)





Example : GT171BRG : size 1 combined group comprising Filter-Regulator, Pressure switch and Lubricator Technopolymer threads, G1/4" connections 0 to 8 bar adjusting range and 20 μm filter pore size





Operational characteristics

Combined group comprising Filter-regulator with built in manometer, Pressure switch and Lubricator assembled with two (Y) type coupling kits for panel mountings.
Integrated manometer 0-12 bar as standard (for 0-8 and 0-12 bar range) and 0-4 bar (for 0-2 and 0-4 range)

Note

The pressure must be always regulating while increasing. For a more precise regulation and higher sensibility, the use of a regulator with a pressure range as close as possible to the regulated pressure is recommended.

Technical characteristics

Connections	G 1/8" - G 1/4"
Max. inlet pressure	13 bar
Working temperature	-5°C +50°C
Weight with Technopolymer threads	gr. 484
Weight with threaded inserts	gr. 504
Pressure range	0-2 bar / 0-4 bar 0-8 bar / 0-12 bar
Filter pore size	5 μm - 20 μm - 50 μm
Bowl capacity	18 cm^3
Indicative oil drip rate	1 drop every 300/600 Nl
Oil type	FD22 - HG32
Bowl capacity	36 cm^3
Assembly positions	Vertical
Max. fitting torque (with Technopolymer threads)	G1/4" = 9 Nm
Max. fitting torque (with threaded inserts)	G1/8" = 15 Nm G1/4" = 20 Nm
Min. operational flow at 6,3 bar	40 Nl/min.

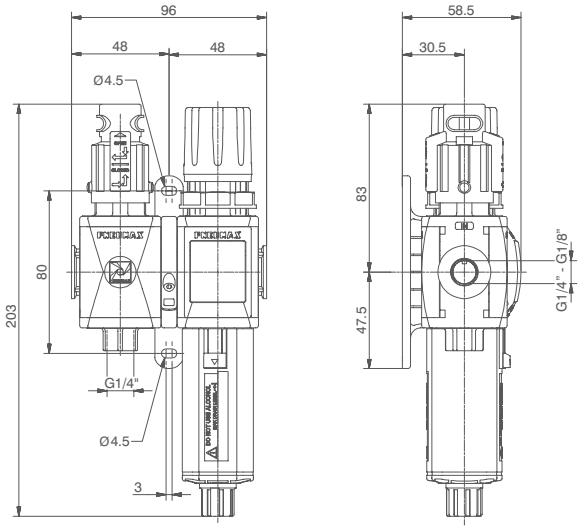
Ordering code

GⓋ171ⒸⓉⓈⓄⒹ

Ⓥ	VERSION
	N = Metal inserts
	T = Technopolymer thread
Ⓒ	CONNECTIONS
	A = G1/8" (only for "N" version)
	B = G1/4"
	C = G1/4" NPT (only for "N" version)
Ⓣ	TYPE
	R = Built in gauge
	C = G1/8" gauge connection
Ⓢ	FILTER PORE SIZE ADJUSTING RANGE
	C = 5 μm / 0-8 bar
	D = 5 μm / 0-12 bar
	G = 20 μm / 0-8 bar
	H = 20 μm / 0-12 bar
	N = 50 μm / 0-8 bar
	P = 50 μm / 0-12 bar
Ⓞ	OPTIONS
	= Standard *
	S = Automatic drain
Ⓓ	FLOW DIRECTION
	= Standard (from left to right)
	W = from right to left

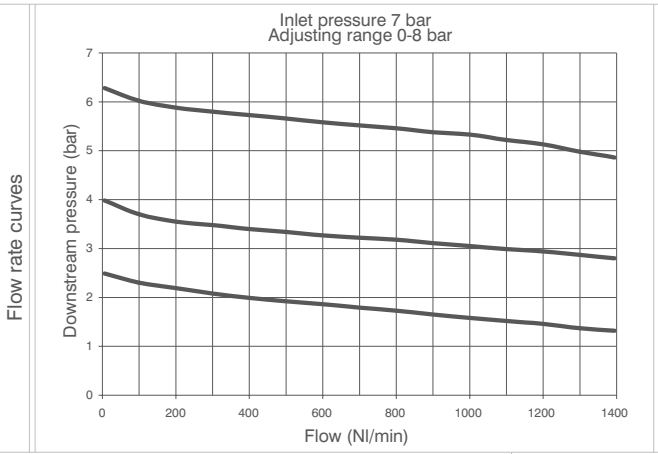
* no additional letter required

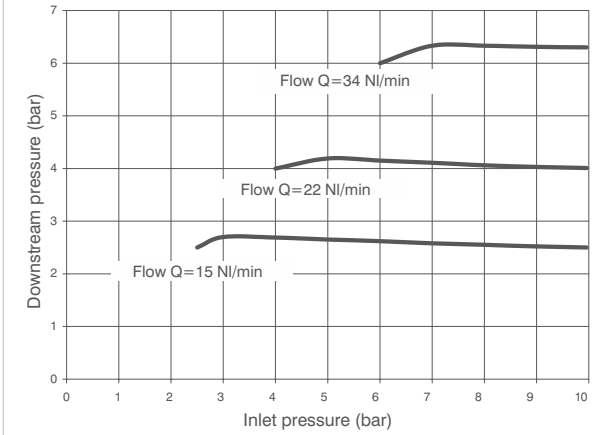
Service unit assembled (VL+EM) (VL+E) (VL+EW)



Example : GT171BVGG : size 1 combined group comprising Shut-off valve, Filter-regulator Technopolymer threads, G1/4" connections 0 to 8 bar adjusting range and 20 μm filter pore size

3





Operational characteristics

Combined group comprising manual shut-off valve, Filter - regulator with built in manometer, assembled with one (Y) type coupling kit for panel mountings.
Integrated manometer 0-12 bar as standard (for 0-8 and 0-12 bar range) and 0-4 bar (for 0-2 and 0-4 range)

Note

The pressure must be always regulating while increasing. For a more precise regulation and higher sensibility, the use of a regulator with a pressure range as close as possible to the regulated pressure is recommended.

Technical characteristics

Connections	G 1/8" - G 1/4"
Max. inlet pressure	13 bar
Working temperature	-5°C +50°C
Weight with Technopolymer threads	gr. 318
Weight with threaded inserts	gr. 338
Pressure range	0-2 bar / 0-4 bar 0-8 bar / 0-12 bar
Filter pore size	5 μm - 20 μm - 50 μm
Bowl capacity	18 cm^3
Indicative oil drip rate	1 drop every 300/600 Nl
Oil type	FD22 - HG32
Bowl capacity	36 cm^3
Assembly positions	Vertical
Max. fitting torque (with Technopolymer threads)	G1/4" = 9 Nm
Max. fitting torque (with threaded inserts)	G1/8" = 15 Nm G1/4" = 20 Nm
Min. operational flow at 6,3 bar	40 Nl/min.

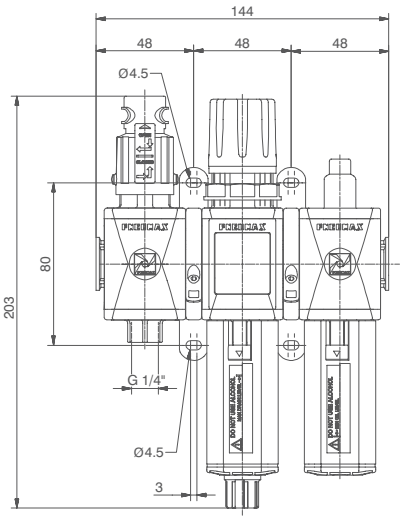
Ordering code

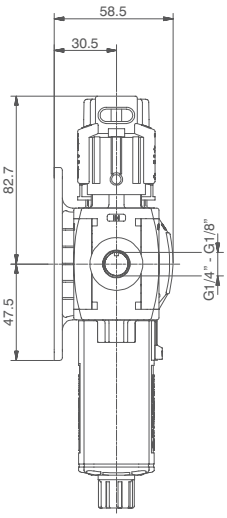
GV171CTSOD

V	VERSION
	N = Metal inserts
	T = Technopolymer thread
C	CONNECTIONS
	A = G1/8" (only for "N" version)
	B = G1/4"
	C = G1/4" NPT (only for "N" version)
T	TYPE
	VG = Built in gauge
	VU = G1/8" gauge connection
S	FILTER PORE SIZE ADJUSTING RANGE
	C = 5 μm / 0-8 bar
	D = 5 μm / 0-12 bar
	G = 20 μm / 0-8 bar
	H = 20 μm / 0-12 bar
	N = 50 μm / 0-8 bar
	P = 50 μm / 0-12 bar
O	OPTIONS
	= Standard *
	S = Automatic drain
D	FLOW DIRECTION
	= Standard (from left to right)
	W = from right to left

* no additional letter required

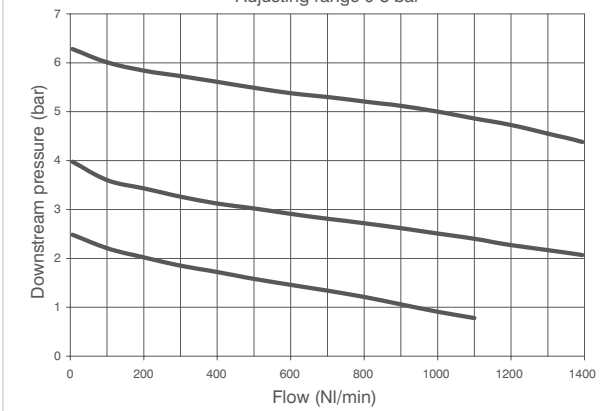
Service unit assembled (VL+EM+L) (VL+E+L) (VL+EW+L)



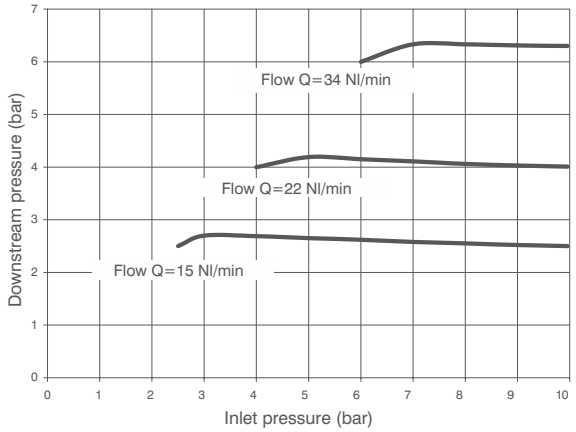


Example : GT171BVHG : size 1 combined group comprising Shut-off valve, Filter-regulator and Lubricator Technopolymer threads, G1/4" connections 0 to 8 bar adjusting range and 20 μm filter pore size

Flow rate curves



Adjustment characteristics



Operational characteristics

Combined group comprising manual shut-off valve, Filter - regulator with built in manometer and Lubricator assembled with two(Y) type coupling kits for panel mountings.
Integrated manometer 0-12 bar as standard (for 0-8 and 0-12 bar range) and 0-4 bar (for 0-2 and 0-4 range)

Note

The pressure must be always regulating while increasing. For a more precise regulation and higher sensibility, the use of a regulator with a pressure range as close as possible to the regulated pressure is recommended.

Technical characteristics

Connections	G 1/8" - G 1/4"
Max. inlet pressure	13 bar
Working temperature	-5°C +50°C
Weight with Technopolymer threads	gr. 446
Weight with threaded inserts	gr. 476
Pressure range	0-2 bar / 0-4 bar 0-8 bar / 0-12 bar
Filter pore size	5 μm - 20 μm - 50 μm
Bowl capacity	18 cm^3
Indicative oil drip rate	1 drop every 300/600 Nl
Oil type	FD22 - HG32
Bowl capacity	36 cm^3
Assembly positions	Vertical
Max. fitting torque (with Technopolymer threads)	G1/4" = 9 Nm
Max. fitting torque (with threaded inserts)	G1/8" = 15 Nm G1/4" = 20 Nm
Min. operational flow at 6,3 bar	40 Nl/min.

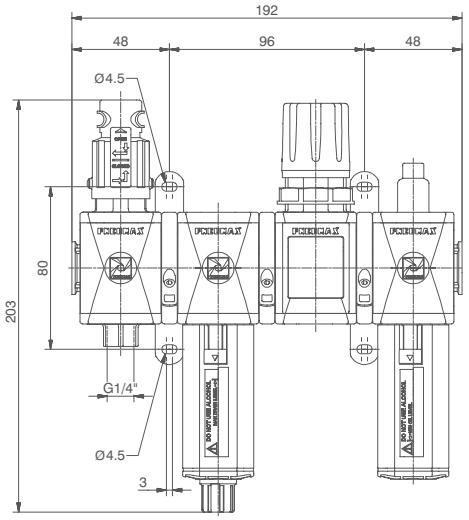
Ordering code

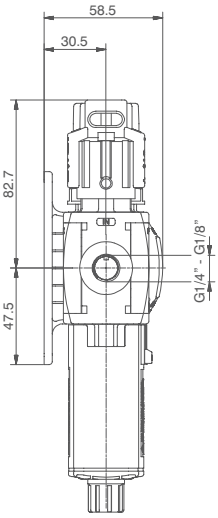
GⓋ171ⒸⓉⓈⓄⒹ

Ⓥ	VERSION
	N = Metal inserts
	T = Technopolymer thread
Ⓒ	CONNECTIONS
	A = G1/8" (only for "N" version)
	B = G1/4"
	C = G1/4" NPT (only for "N" version)
Ⓣ	TYPE
	VH = Built in gauge
	VJ = G1/8" gauge connection
Ⓢ	FILTER PORE SIZE ADJUSTING RANGE
	C = 5 μm / 0-8 bar
	D = 5 μm / 0-12 bar
	G = 20 μm / 0-8 bar
	H = 20 μm / 0-12 bar
	N = 50 μm / 0-8 bar
	P = 50 μm / 0-12 bar
Ⓞ	OPTIONS
	= Standard *
	S = Automatic drain
Ⓓ	FLOW DIRECTION
	= Standard (from left to right)
	W = from right to left

* no additional letter required

Service unit assembled (VL+F+RM+L) (VL+F+R+L) (VL+F+RW+L)

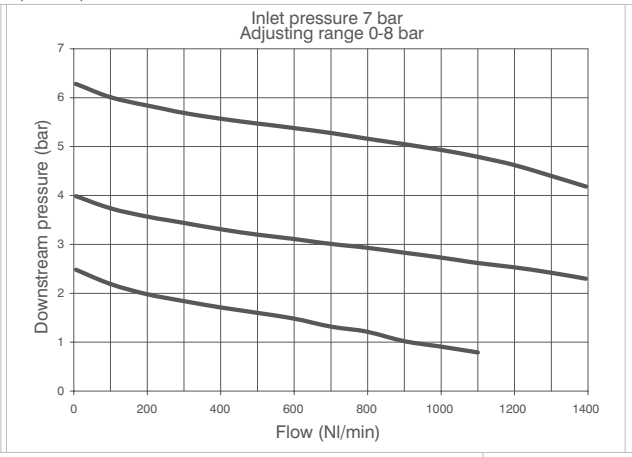




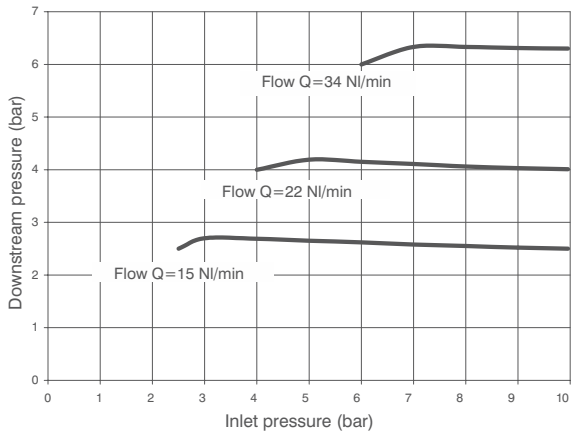
Example : GT171BVKG : size 1 combined group comprising Shut-off valve, Filter, Regulator and Lubricator Technopolymer threads, G1/4" connections 0 to 8 bar adjusting range and 20 μm filter pore size

3

Flow rate curves



Adjustment characteristics



Operational characteristics

Combined group comprising manual shut - off valve, Filter, Regulator with built in manometer and Lubricator , assembled with two (Y) type coupling kits for panel mounting and one (X) type coupling kit.
Integrated manometer 0-12 bar as standard (for 0-8 and 0-12 bar range) and 0-4 bar (for 0-2 and 0-4 range)

Note

The pressure must be always regulating while increasing. For a more precise regulation and higher sensibility, the use of a regulator with a pressure range as close as possible to the regulated pressure is recommended.

Technical characteristics

Connections	G 1/8" - G 1/4"
Max. inlet pressure	13 bar
Working temperature	-5°C +50°C
Weight with Technopolymer threads	gr. 518
Weight with threaded inserts	gr. 558
Pressure range	0-2 bar / 0-4 bar 0-8 bar / 0-12 bar
Filter pore size	5 μm - 20 μm - 50 μm
Bowl capacity	18 cm^3
Indicative oil drip rate	1 drop every 300/600 Nl
Oil type	FD22 - HG32
Bowl capacity	36 cm^3
Assembly positions	Vertical
Max. fitting torque (with Technopolymer threads)	G1/4" = 9 Nm
Max. fitting torque (with threaded inserts)	G1/8" = 15 Nm G1/4" = 20 Nm
Min. operational flow at 6,3 bar	40 Nl/min.

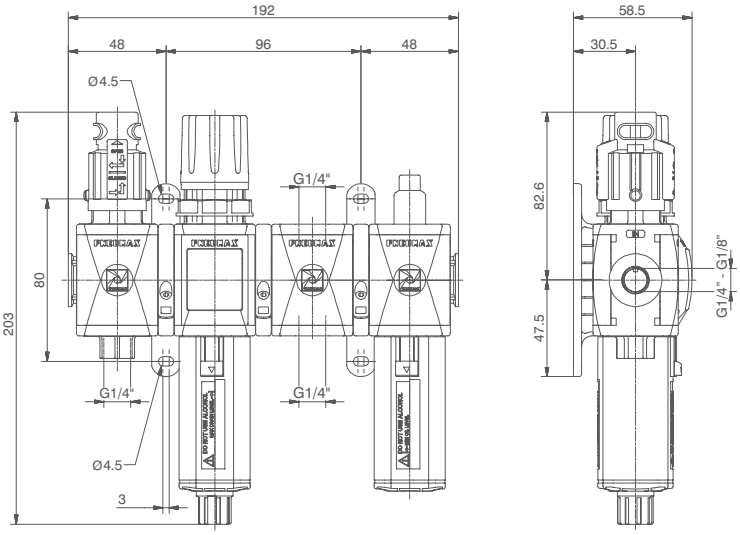
Ordering code

GV171CTSOD

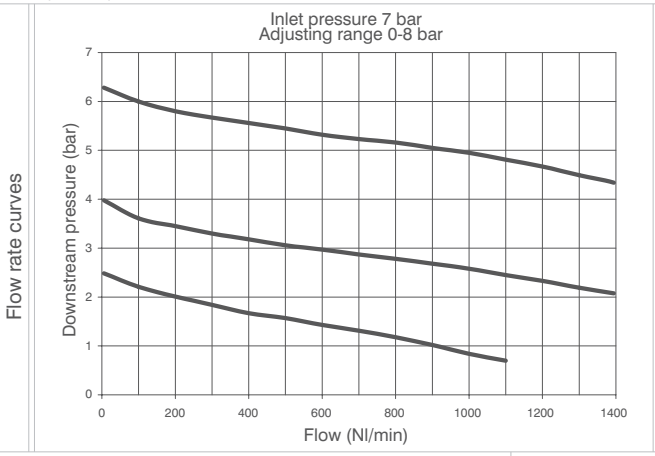
V	VERSION
	N = Metal inserts
	T = Technopolymer thread
C	CONNECTIONS
	A = G1/8" (only for "N" version)
	B = G1/4"
	C = G1/4" NPT(only for "N" version)
T	TYPE
	VK = Built in gauge
	VT = G1/8" gauge connection
S	FILTER PORE SIZE ADJUSTING RANGE
	C = 5 μm / 0-8 bar
	D = 5 μm / 0-12 bar
	G = 20 μm / 0-8 bar
	H = 20 μm / 0-12 bar
	N = 50 μm / 0-8 bar
	P = 50 μm / 0-12 bar
O	OPTIONS
	= Standard *
	S = Automatic drain
D	FLOW DIRECTION
	= Standard (from left to right)
	W = from right to left

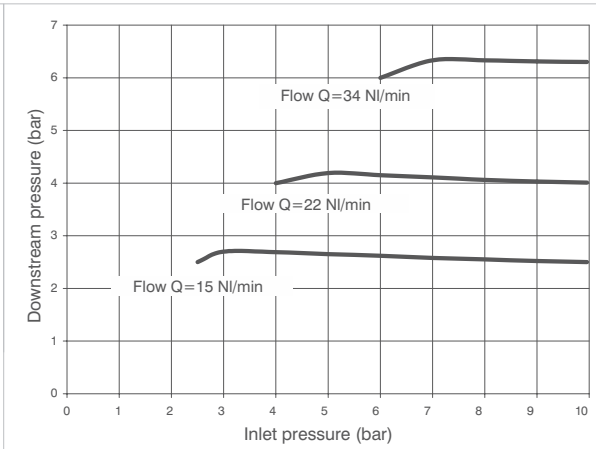
* no additional letter required

Service unit assembled (VL+EM+PA+L) (VL+E+PA+L) (VL+EW+PA+L)



Example : GT171BVNG : size 1 combined group comprising Shut-off valve, Filter-regulator, Air intake and Lubricator Technopolymer threads, G1/4" connections 0 to 8 bar adjusting range and 20 μm filter pore size





Operational characteristics

Combined group comprising manual shut-off valve, Filter - regulator with built in manometer, Air intake and Lubricator, assembled with two (Y) type coupling kits for panel mounting and one (X) type coupling kit.
Integrated manometer 0-12 bar as standard (for 0-8 and 0-12 bar range) and 0-4 bar (for 0-2 and 0-4 range)

Note

The pressure must be always regulating while increasing. For a more precise regulation and higher sensibility, the use of a regulator with a pressure range as close as possible to the regulated pressure is recommended.

Technical characteristics

Connections	G 1/8" - G 1/4"
Max. inlet pressure	13 bar
Working temperature	-5°C +50°C
Weight with Technopolymer threads	gr. 510
Weight with threaded inserts	gr. 540
Pressure range	0-2 bar / 0-4 bar 0-8 bar / 0-12 bar
Filter pore size	5 μm - 20 μm - 50 μm
Bowl capacity	18 cm^3
Indicative oil drip rate	1 drop every 300/600 Nl
Oil type	FD22 - HG32
Bowl capacity	36 cm^3
Assembly positions	Vertical
Max. fitting torque (with Technopolymer threads)	G1/4" = 9 Nm
Max. fitting torque (with threaded inserts)	G1/8" = 15 Nm G1/4" = 20 Nm
Min. operational flow at 6,3 bar	40 Nl/min.

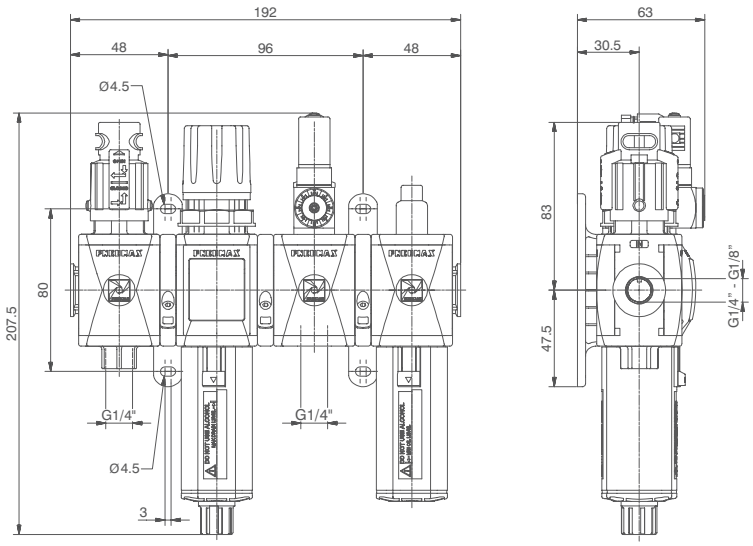
Ordering code

G(V)171(C)(T)(S)(O)(D)

(V)	VERSION
	N = Metal inserts
	T = Technopolymer thread
(C)	CONNECTIONS
	A = G1/8" (only for "N" version)
	B = G1/4"
	C = G1/4" NPT(only for "N" version)
(T)	TYPE
	VN = Built in gauge
	VP = G1/8" gauge connection
(S)	FILTER PORE SIZE ADJUSTING RANGE
	C = 5 μm / 0-8 bar
	D = 5 μm / 0-12 bar
	G = 20 μm / 0-8 bar
	H = 20 μm / 0-12 bar
	N = 50 μm / 0-8 bar
	P = 50 μm / 0-12 bar
(O)	OPTIONS
	= Standard *
	S = Automatic drain
(D)	FLOW DIRECTION
	= Standard (from left to right)
	W = from right to left

* no additional letter required

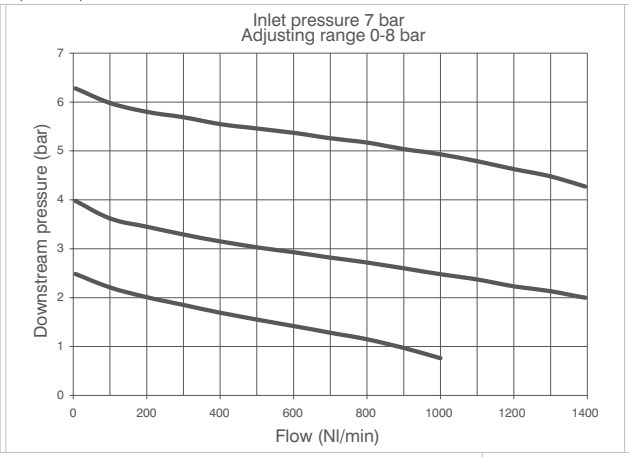
Service unit assembled (VL+EM+PP+L) (VL+E+PP+L) (VL+EW+PP+L)



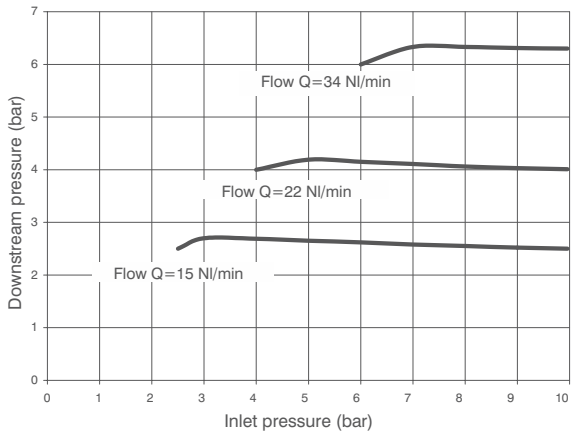
Example : GT171BVRG : size 1 combined group comprising Shut-off valve, Filter-regulator, Pressure switch and Lubricator Technopolymer threads, G1/4" connections adjusting range 0 to 8 bar and 20 μm filter pore size

3

Flow rate curves



Adjustment characteristics



Operational characteristics

Combined group comprising manual shut-off valve, Filter - regulator with built in manometer, Pressure switch and Lubricator, assembled with two (Y) type coupling kits for panel mounting and one (X) type coupling kit.
Integrated manometer 0-12 bar as standard (for 0-8 and 0-12 bar range) and 0-4 bar (for 0-2 and 0-4 range)

Note

The pressure must be always regulating while increasing. For a more precise regulation and higher sensibility, the use of a regulator with a pressure range as close as possible to the regulated pressure is recommended.

Technical characteristics

Connections	G 1/8" - G 1/4"
Max. inlet pressure	13 bar
Working temperature	-5°C +50°C
Weight with Technopolymer threads	gr. 596
Weight with threaded inserts	gr. 626
Pressure range	0-2 bar / 0-4 bar 0-8 bar / 0-12 bar
Filter pore size	5 μm - 20 μm - 50 μm
Bowl capacity	18 cm^3
Indicative oil drip rate	1 drop every 300/600 Nl
Oil type	FD22 - HG32
Bowl capacity	36 cm^3
Assembly positions	Vertical
Max. fitting torque (with Technopolymer threads)	G1/4" = 9 Nm
Max. fitting torque (with threaded inserts)	G1/8" = 15 Nm G1/4" = 20 Nm
Min. operational flow at 6,3 bar	40 Nl/min.

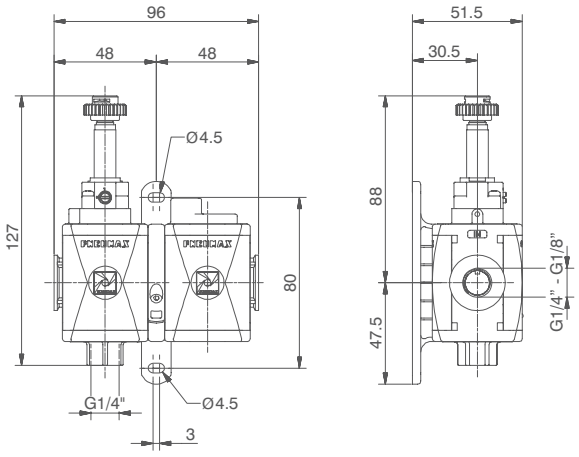
Ordering code

GV171CTSOD

V	VERSION
	N = Metal inserts
	T = Technopolymer thread
C	CONNECTIONS
	A = G1/8" (only for "N" version)
	B = G1/4"
	C = G1/4" NPT (only for "N" version)
T	TYPE
	VR = Built in gauge
	VC = G1/8" gauge connection
S	FILTER PORE SIZE ADJUSTING RANGE
	C = 5 μm / 0-8 bar
	D = 5 μm / 0-12 bar
	G = 20 μm / 0-8 bar
	H = 20 μm / 0-12 bar
	N = 50 μm / 0-8 bar
	P = 50 μm / 0-12 bar
O	OPTIONS
	= Standard *
	S = Automatic drain
D	FLOW DIRECTION
	= Standard (from left to right)
	W = from right to left

* no additional letter required

Service unit assembled (VE+AP)



Example : GT171BSB2 : size 1 combined group comprising Electric shut-off valve, Progressive start-up valve without coil with M2 pilot Technopolymer threads, G1/4" connections

Operational characteristics	Technical characteristics		
Combined group comprising Electric shut-off valve and Progressive start-up valve assembled with a (Y) type coupling kit for panel mounting.	Connections	G 1/8" - G 1/4"	
	Max. inlet pressure	10 bar	
	Min. inlet pressure	3 bar	
	Working temperature	-5°C +50°C	
	Weight with Technopolymer threads	gr. 218	
	Weight with threaded inserts	gr. 238	
	Assembly positions	Indifferent	
	Max. fitting torque (with Technopolymer threads)	G1/4" = 9 Nm	
	Max. fitting torque (with threaded inserts)	G1/8" = 15 Nm G1/4" = 20 Nm	
	Flow at 6 bar with Δp=1	1200 Nl/min.	

Ordering code	
GⓋ171ⒸSⒶ	
Ⓥ	VERSION
	N = Metal inserts
	T = Technopolymer thread
Ⓒ	CONNECTIONS
	A = G1/8" (only for "N" version)
	B = G1/4"
	C = G1/4" NPT (only for "N" version)
Ⓐ	15 mm COIL VOLTAGE
	A4 = 12 V DC
	A5 = 24 V DC
	A6 = 24 V AC (50-60 Hz)
	A7 = 110 V AC (50-60 Hz)
	A8 = 220 V AC (50-60 Hz)
	A9 = 24 V DC (1 Watt)
	22 mm COIL VOLTAGE
	B2 = Without coil M2 mechanic
	B4 = 12 V DC
	B5 = 24 V DC
	B6 = 24 V AC (50-60 Hz)
	B7 = 110 V AC (50-60 Hz)
	B8 = 220 V AC (50-60 Hz)
	B9 = 24 V DC (2 Watt)
	30 mm COIL VOLTAGE
	C5 = 24 V DC
	C6 = 24 V AC (50-60 Hz)
	C7 = 110 V AC (50-60 Hz)
	C8 = 230 V AC (50-60 Hz)
	C9 = 24 V DC (2 Watt)

Construction and working characteristics

The new FRL units AIRPLUS series represents the evolution of the well known and consolidated 1700 series.
The main features are increased performances, reliability, easy and fast assembly and the introduction of the latest technical features.
With the exception of the air intake module and the pressure switch module all elements are available in two configurations: with technopolimer connections (IN and OUT) , (T series), or with metal threaded inserts , (N series). Bowls made of transparent polycarbonate (PC) are fitted with a bowl protection guard which is assembled on the body via a quick coupling mechanism provided with a safety button. The filter, available with three filtration grades (5μm, 20μm and 50μm) is fitted as standard with a drain mechanism which can be operated manually or semi-automatically. On request is available the auto-drain mechanism. The regulator is based on the rolling diaphragm technology with low hysteresis and the system is balanced. The unit can be fitted with integrated flush mounting pressure gauge (0 to 12 bar range). 4 pressure ranges are available going from 0 to 12 bar and the regulating knob can be blocked in position simply by pressing it down. A dedicated version is available for battery mounting , up to a maximum of 6 units. The lubricator is based on the Venturi principle and the oil quantity is regulated via the adjusting screw positioned don the transparent polycarbonate (PC) regulating dome which also ensure clear visibility of the oil flow and regulation. The oil suction pipe is fitted as standard with a sintered filter which ensures that any contaminant that should be present in the oil will reach the down stream circuit. Shoot off valve is available in two versions, one manually operated and one solenoid operated. In both cases the unit is fitted with a threaded connection for depressurising the downstream circuit. On the manually operated version, in the lock position, it is possible to fit up to three locks in order to prevent the accidental pressurization of the pneumatic circuit avoiding accidents or damages. The solenoid operated version is available with a 15mm or with a 22mm solenoid valve. The soft start valve ensure a progressive pressurization of the down stream circuit avoiding sudden pressure surges which could be dangerous for the devices fitted on the down stream circuit. The filling time can be easily adjusted via a built in flow regulator. The full flow rate is allowed only once the down stream pressure has reached 50% of the value of the inlet pressure. The pressure switch module which can be set between 2 and 10 bar and the air intake module complete the range.
The elements are joint together via dedicated quick coupling technopolimer flanges which allows for the units to be panel mounted moreover ensure the possibility to replace any component without disassembling the FRL group from its position.
90° mounting brackets and standard gauges are also available.

Instruction for installation and operation

The FRL unit must be installed as close as possible to the application. The air flow direction must follow the directions indicated on the single units in correspondence of the threaded connections.(IN and OUT)
Units provided with bowl must be mounted vertically with the bawl facing down. Single units or groups can be panel mounted via the Y type flanges, regulators and filter-regulators can be mounted via the 90° zinc plated steel bracket. In order to mount the 90° bracket it is necessary to remove the regulating knob and then the locking ring before positioning the bracket. All units must be operated according to the specified pressure and temperature ranges; fittings must be mounted without exciding the maximum torque allowed. Ensure that the units cover plates are in position before pressure is applied. The cover plates are needed to lock in position the top part of the unit.
The condense level in filer and filter-regulators bowls must never exceed the maximum level indicated on the bowls. With manual or semi automatic drain the condense can be discharged via a 6/4mm tube directly connected to the drain tap. On the pressure regulator the pressure value must always set wile pressure is rising and ideally the unit pressure range should be chosen based on the pressure value to be regulated.
Lubricators must be filled with class FD22 and HG32 oils. Ensure, both on the inlet and on the outlet , that the flow rate is above the minimum flow rate required to operate the unit. Below this value the units does not operate. The oil quantity can be regulated via the regulating screw on the transparent polycarbonate dome through which it is also clearly visible the oil flow. A drop every 300-600 litres should be allowed.
The oil can be re-filled while the pneumatic circuit is pressurized thanks to the exhaust valve which is built in the refill plug and allows for the bowl to be depressurized and the oil refill directly form in the bowl or from the plug. The manual shot off valve needs, to be operated, a push and turn action (clockwise) in order to close it and discharge the down stream circuit it is necessary to turn anti clock wise the knob. The soft start valve is used to slowly and progressively pressurize the down stream circuit, the time needed to do so can be set by means of the built in flow regulator.
The soft start valve on its own does not allow for the down stream circuit to be discharged, in order to do so it is necessary to combine it with a shot off valve (to be mounted upstream).

Maintenance

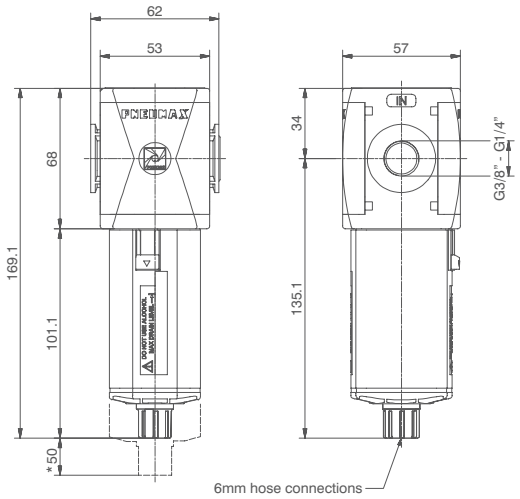
For any maintenance which requires the removal of the top plugs/ supports from the body it is necessary to preventively remove the sides cover plates. If the top plugs\supports are removed with the sides plates still in their position the unit could be permanently damaged.

Bowls , plugs and supports are assembled with a bayonet type mechanism. In order to remove them rotate anti clockwise until the mechanical stop is reached and than remove from the body (for the bowls firstly press down the green safety button). Bowls and transparent parts can be cleaned with water and neutral soap. Do not use solvents or alcohol.
Filtering elements (from filters and filter regulators) made of HDPE can be regenerated by washing and blowing them. In order to remove them it is necessary to remove the bowl unscrew the filter element and replace it with a new one or clean it. The oil can be re-filled while the pneumatic circuit is pressurized thanks to the exhaust valve which is built in the refill plug and allows for the bowl to be depressurized. In order to be able to un-mount the bowl it is necessary unscrew the refill plug positioned near the oil dome, once this operation has been carried out it is possible to remove the bowl to re fill it or to refill from the refill plug. Refilling directly the bowl is suggested.
Should the pressure regulator not perform properly or should present a constant leackage from the relieving replaced the diaphragm by unloading completely the regulating spring before removing the regulation support. Any other maintenance operation, in consideration of the complexity of the assembly, and the need of a through test according to the Pneumax spa specification, should be carried out by the manufacturer.

Fittings maximum recommended torque applicable

THREAD	Technopolymer version (T)	Metal version (N)
G1/8"	4 Nm	15 Nm
G1/4"	9 Nm	20 Nm
G3/8"	16 Nm	25 Nm
G1/2"	22 Nm	30 Nm

Filter (F)

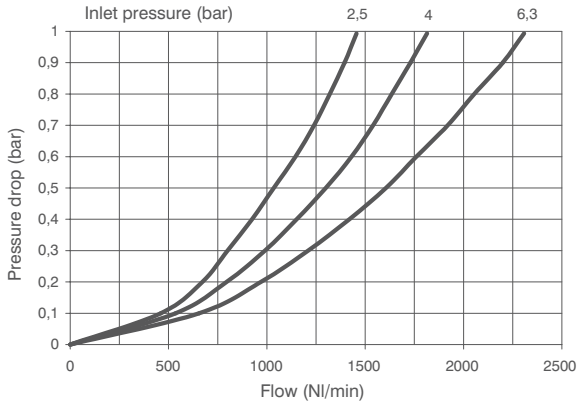


*Bowl removal maximum height

Example: T172BFB : size 2, Filter with Technopolymer threads, G3/8" connections, 20 μm filter pore size

3

Flow rate curves

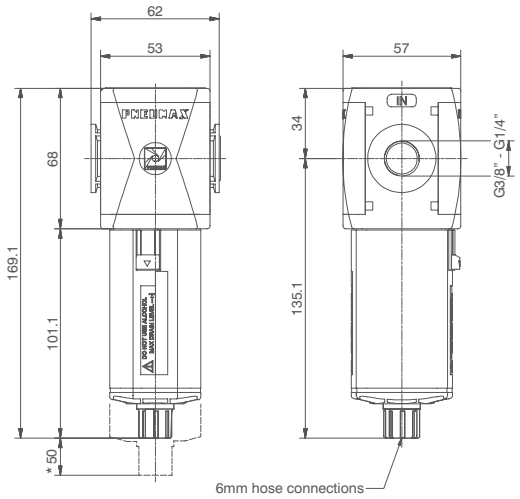


Operational characteristics	Technical characteristics		
- Double filtering action: air flow centrifugation and filter element	Connections	G 1/4" - G 3/8"	Ordering code
- Filtering element made of HDPE (high density polyethylene) available in three different filtration grades (5μm, 20μm and 50μm) can be regenerated by washing it or replaced.	Max. inlet pressure	13 bar	ⓋT172ⒸFⓈⓄ
	Minimum working pressure with automatic drain	0,5 bar	
- Transparent bowl made off polycarbonate with bowl protection guard.	Maximum working pressure with automatic drain	10 bar	
- Bowl assembly via bayonet type quick coupling mechanism with safety button.	Working temperature	-5°C +50°C	
	Weight with Technopolymer threads	gr. 220	
- Semi-automatic drain mounted as standard; automatic drain upon request.	Weight with threaded inserts	gr. 230	
	Filter pore size	5 μm - 20 μm - 50 μm	
Note	Bowl capacity	34 cm^3	
In order to ensure adequate flow on the auto drain version it is recommended to use minimum a 6mm fitting.	Assembly positions	Vertical	
	Max. fitting torque (with Technopolymer threads)	G3/8" = 16 Nm	
	Max. fitting torque (with threaded inserts)	G1/4" = 20 Nm G3/8" = 25 Nm	

Ⓥ	VERSION
	N = Metal inserts
	T = Technopolymer thread
Ⓒ	CONNECTIONS
	A = G1/4" (only for "N" version)
	B = G3/8"
	C = G3/8" NPT (only for "N" version)
Ⓢ	FILTER PORE SIZE
	A = 5 μm
	B = 20 μm
	C = 50 μm
Ⓞ	OPTIONS
	= Standard *
	S = Automatic drain

* no additional letter required

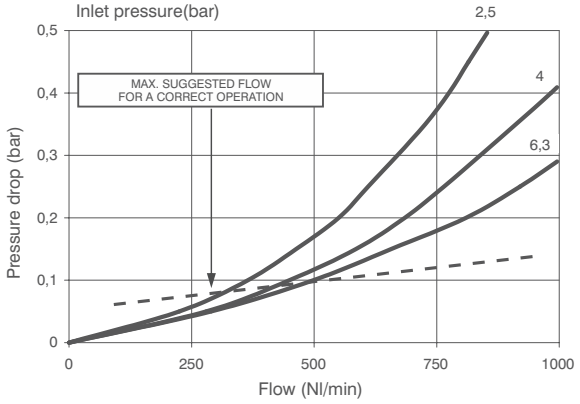
Coalescing filter (D)



*Bowl removal maximum height

Example : T172BDA : Coalescing filter size 2, with Technopolymer threads, G3/8" connections, filter efficency 99,97%

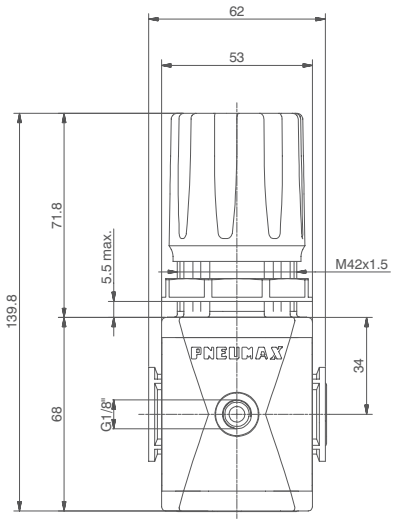
Flow rate curves

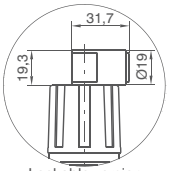


Operational characteristics	Technical characteristics		
- Coelesing filter element with filtration grade of 0.01μm	Connections	G 1/4" - G 3/8"	Ordering code
- Transparent bowl made off polycarbonate with bowl protection guard.	Max. inlet pressure	13 bar	ⓋT172ⒸDⒺⓄ
- Bowl assembly via bayonet type quick coupling mechanism with safety button.	Minimum working pressure with automatic drain	0,5 bar	Ⓥ VERSION: N = Metal inserts; T = Technopolymer thread
- Semi-automatic drain mounted as standard; automatic drain upon request.	Maximum working pressure with automatic drain	10 bar	Ⓒ CONNECTIONS: A = G1/4"(only for "N" version); B = G3/8"; C = G3/8" NPT(only for "N" version)
Note	Working temperature	-5°C +50°C	
In order to ensure a better grade of filtration it is recommended to use a 5 μm filter before the coalescing filter. In order to ensure adequate flow on the auto drain version it is recommended to use minimum a 6mm fitting.	Weight with Technopolymer threads	gr. 225	
	Weight with threaded inserts	gr. 235	
	Filter efficiency with 0,01 μm particle	99,97%	Ⓔ FILTER EFFICIENCY: A = 99,97%
	Bowl capacity	34 cm^3	Ⓞ OPTIONS: = Standard *; S = Automatic drain
	Assembly positions	Vertical	
	Max. fitting torque (with Technopolymer threads)	G3/8" = 16 Nm	
	Max. fitting torque (with threaded inserts)	G1/4" = 20 Nm G3/8" = 25 Nm	

* no additional letter required

Regulator (R)

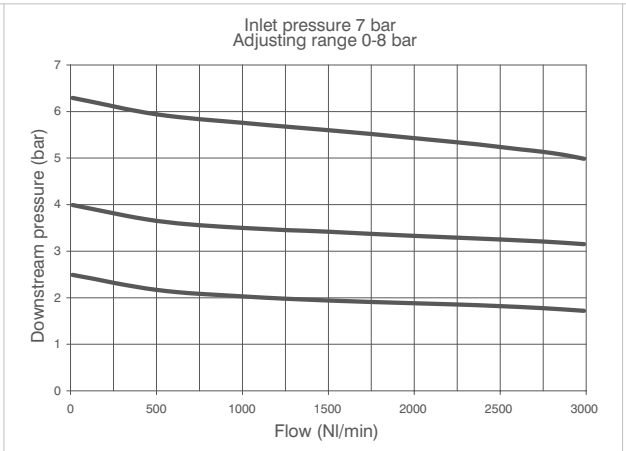




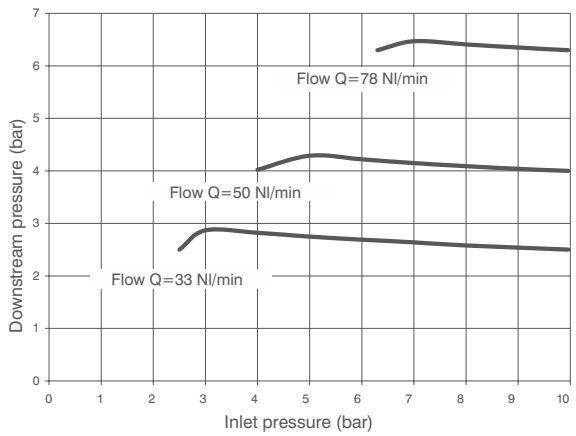
Lockable version
Detail

Example: T172BRC : size 2, Regulator with Technopolymer threads, G3/8" connections, 0 to 8 bar adjusting range

Flow rate curves



Adjustment characteristics



Operational characteristics

- Diaphragm pressure regulator with relieving.
- Low hysteresis rolling diaphragm.
- Balanced system.
- Available in four pressure ranges up to 12 bar.
- Operating knob can be locked in position by pressing it down once the desired P2 (regulated pressure) pressure value is achieved.
- Fitted with panel mounting locking ring.

Note

The pressure must be always regulating while increasing. For a more precise regulation and higher sensibility, the use of a regulator with a pressure range as close as possible to the regulated pressure is recommended.

Technical characteristics

Connections	G 1/4" - G 3/8"
Max. inlet pressure	13 bar
Working temperature	-5°C +50°C
Pressure gauge connections	G 1/8"
Weight with Technopolymer threads	gr. 300
Weight with threaded inserts	gr. 310
Pressure range	0-2 bar / 0-4 bar 0-8 bar / 0-12 bar
Assembly positions	Indifferent
Max. fitting torque (with Technopolymer threads)	G1/8" = 4 Nm G3/8" = 16 Nm
Max. fitting torque (with threaded inserts)	G1/4" = 20 Nm G3/8" = 25 Nm

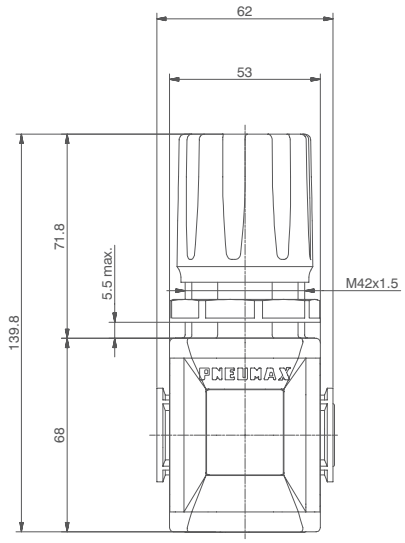
Ordering code

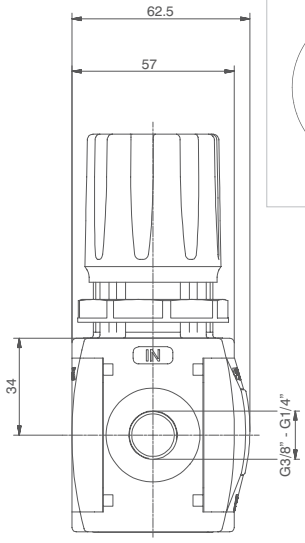
V172CRGTO

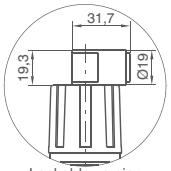
V	VERSION
	N = Metal inserts
	T = Technopolymer thread
C	CONNECTIONS
	A = G1/4" (only for "N" version)
	B = G3/8"
	C = G3/8" NPT (only for "N" version)
G	ADJUSTING RANGE
	A = 0-2 bar
	B = 0-4 bar
	C = 0-8 bar
	D = 0-12 bar
T	TYPE
	= Standard *
	F = Controlled refiel + improved relieving
	L = no relieving
	R = Improved relieving
O	OPTIONS
	= Standard *
	K = Lockable version

* no additional letter required

Regulator including gauge (RM)(RW)

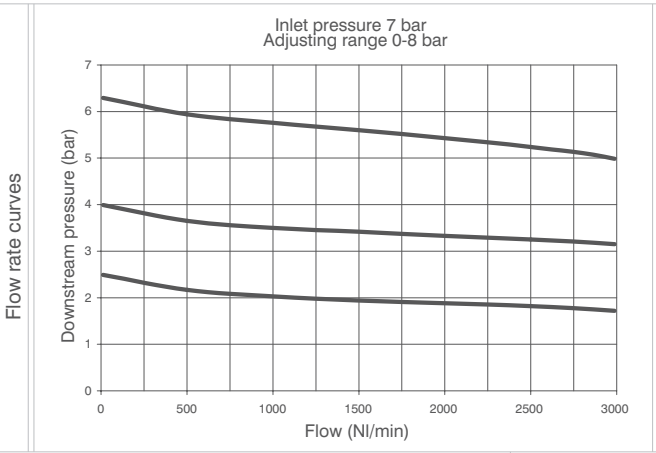


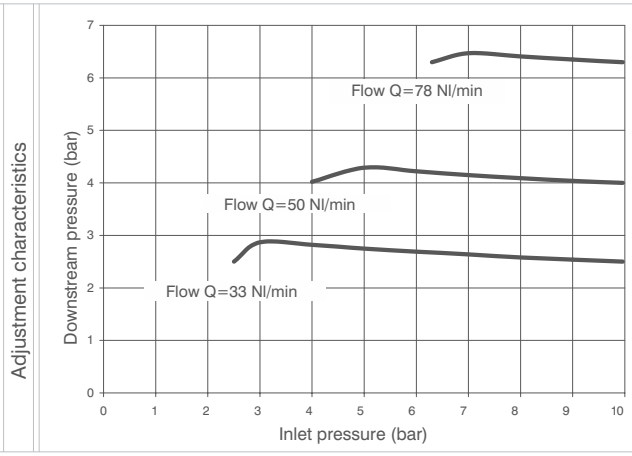




Lockable version
Detail

Example : T172BRMC : size 2, Regulator including gauge with Technopolymer threads, G3/8" connections, 0 to 8 bar adjusting range





Operational characteristics

- Diaphragm pressure regulator with relieving.
- Low hysteresis rolling diaphragm.
- Balanced system.
- Available in four pressure ranges up to 12 bar.
- Operating knob can be locked in position by pressing it down once the desired P2 (regulated pressure) pressure value is achieved.
- Fitted with panel mounting locking ring.
- Integrated manometer 0-12 bar as standard (for 0-8 and 0-12 bar range) and 0-4 bar (for 0-2 and 0-4 range)

Note

The pressure must be always regulating while increasing. For a more precise regulation and higher sensibility, the use of a regulator with a pressure range as close as possible to the regulated pressure is recommended.

Technical characteristics

Connections	G 1/4" - G 3/8"
Max. inlet pressure	13 bar
Working temperature	-5°C +50°C
Weight with Technopolymer threads	gr. 300
Weight with threaded inserts	gr. 310
Pressure range	0-2 bar / 0-4 bar 0-8 bar / 0-12 bar
Assembly positions	Indifferent
Max. fitting torque (with Technopolymer threads)	G3/8" = 16 Nm
Max. fitting torque (with threaded inserts)	G1/4" = 20 Nm G3/8" = 25 Nm

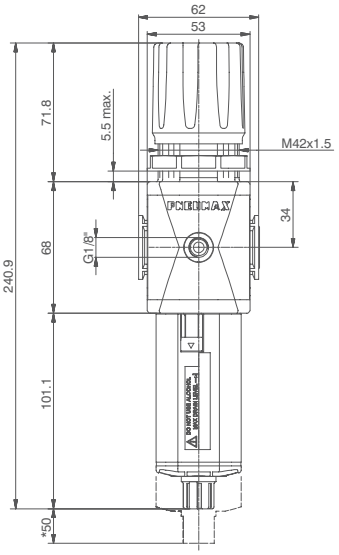
Ordering code

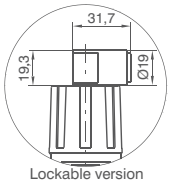
Ⓥ172ⒸⓇⒹⒼⓉⓄ

Ⓥ	VERSION
	N = Metal inserts
	T = Technopolymer thread
Ⓒ	CONNECTIONS
	A = G1/4" (only for "N" version)
	B = G3/8"
	C = G3/8" NPT (only for "N" version)
Ⓓ	FLOW DIRECTION
	M = from left to right
	W = from right to left
Ⓖ	ADJUSTING RANGE
	A = 0-2 bar
	B = 0-4 bar
	C = 0-8 bar
	D = 0-12 bar
Ⓣ	TYPE
	= Standard *
	F = Controlled refiel + improved relieving
	L = no relieving
	R = Improved relieving
Ⓞ	OPTIONS
	= Standard *
	K = Lockable version

* no additional letter required

Filter-Regulator (E)



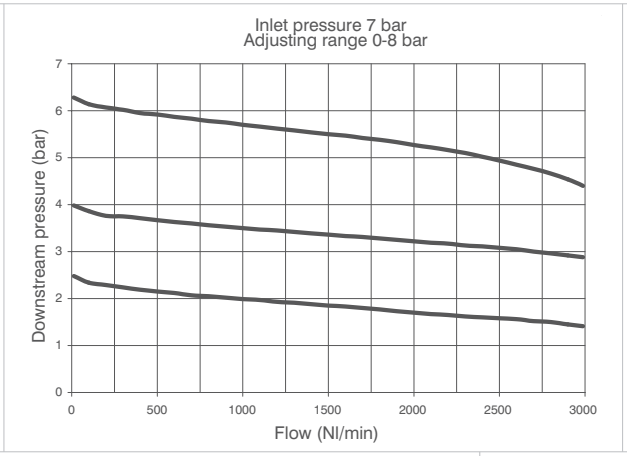


Lockable version
Detail

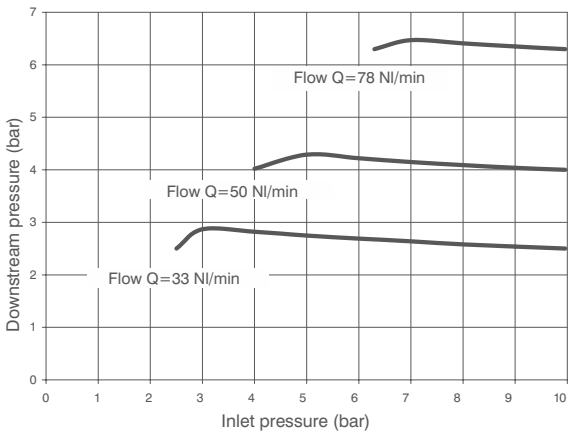
*Bowl removal maximum height

Example : T172BEBC : size 2, Filter-regulator with Technopolymer threads, G3/8" connections, 20 μm filtering pore size, 0 to 8 bar adjusting range

Flow rate curves



Adjustment characteristics



Operational characteristics

- Filter - diaphragm pressure regulator with relieving.
- Low hysteresis rolling diaphragm.
- Balanced system.
- Double filtering action: air flow centrifugation and filter element.
- Filtering element made of HDPE (high density polyethylene) available in three different filtration grades (5μm, 20μm and 50μm) can be regenerated by washing it or replaced.
- Transparent bowl made off polycarbonate with bowl protection guard.
- Bowl assembly via bayonet type quick coupling mechanism with safety button.
- Semi-automatic drain mounted as standard; automatic drain upon request.
- Available in four pressure ranges up to 12 bar.
- Operating knob can be locked in position by pressing it down once the desired P2 (regulated pressure) pressure value is achieved.
- Fitted with panel mounting locking ring.

Note

The pressure must be always regulating while increasing. For a more precise regulation and higher sensibility, the use of a regulator with a pressure range as close as possible to the regulated pressure is recommended. In order to ensure adequate flow on the auto drain version it is recommended to use minimum a 6mm fitting.

Technical characteristics

Connections	G 1/4" - G 3/8"
Max. inlet pressure	13 bar
Minimum working pressure with automatic drain	0,5 bar
Maximum working pressure with automatic drain	10 bar
Working temperature	-5°C +50°C
Pressure gauge connections	G 1/8"
Weight with Technopolymer threads	gr. 390
Weight with threaded inserts	gr. 400
Pressure range	0-2 bar / 0-4 bar 0-8 bar / 0-12 bar
Filter pore size	5 μm - 20 μm - 50 μm
Bowl capacity	34 cm^3
Assembly positions	Vertical
Max. fitting torque (with Technopolymer threads)	G1/8" = 4 Nm G3/8" = 16 Nm
Max. fitting torque (with threaded inserts)	G1/4" = 20 Nm G3/8" = 25 Nm

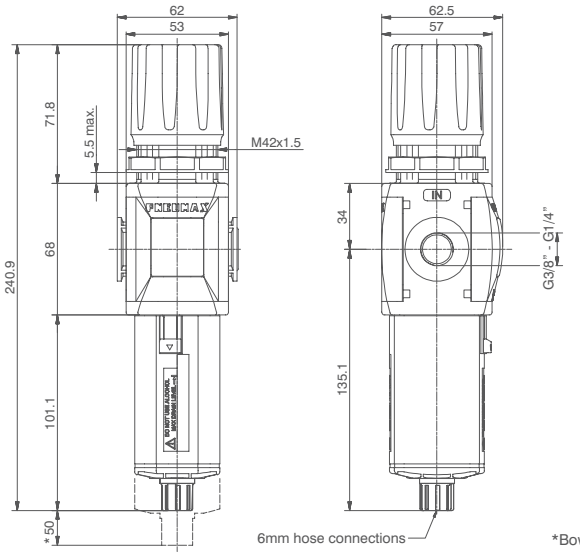
Ordering code

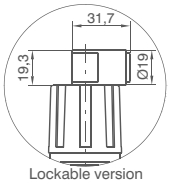
V172CESGTO

V	VERSION
	N = Metal inserts
	T = Technopolymer thread
C	CONNECTIONS
	A = G1/4" (only for "N" version)
	B = G3/8"
	C = G3/8" NPT (only for "N" version)
S	FILTER PORE SIZE
	A = 5 μm
	B = 20 μm
	C = 50 μm
G	ADJUSTING RANGE
	A = 0-2 bar
	B = 0-4 bar
	C = 0-8 bar
	D = 0-12 bar
T	TYPE
	= Standard *
	S = Automatic drain
O	OPTIONS
	= Standard *
	K = Lockable version

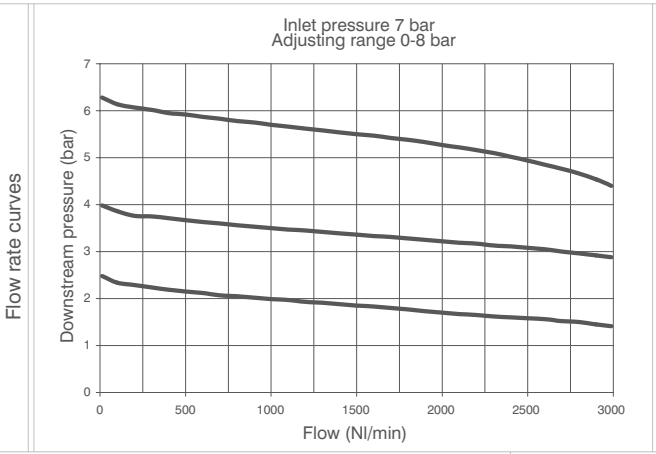
* no additional letter required

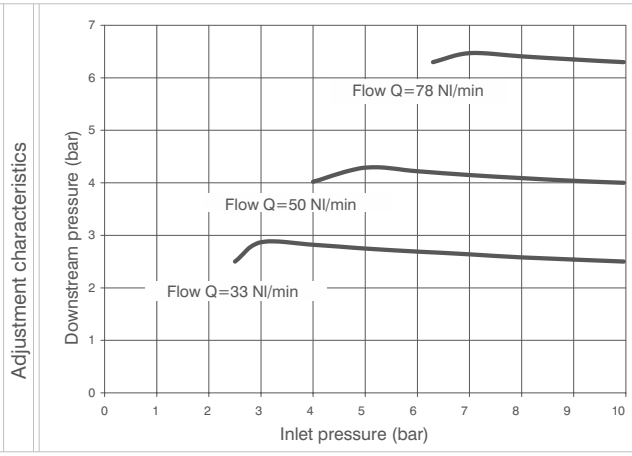
Filter-regulator including gauge (EM)(EW)





Example: T172BEMBC : size 2, Filter-Regulator including gauge with Technopolymer threads, G3/8" connections, with 20 μm filtering pore size, 0 to 8 bar adjusting range





Operational characteristics

- Filter - diaphragm pressure regulator with relieving.
- Low hysteresis rolling diaphragm.
- Balanced system.
- Double filtering action: air flow centrifugation and filter element.
- Filtering element made of HDPE (high density polyethylene) available in three different filtration grades (5μm, 20μm and 50μm) can be regenerated by washing it or replaced.
- Transparent bowl made of polycarbonate with bowl protection guard.
- Bowl assembly via bayonet type quick coupling mechanism with safety button.
- Semi-automatic drain mounted as standard; automatic drain upon request.
- Available in four pressure ranges up to 12 bar.
- Operating knob can be locked in position by pressing it down once the desired P2 (regulated pressure) pressure value is achieved.
- Fitted with panel mounting locking ring.
- Integrated manometer 0-12 bar as standard (for 0-8 and 0-12 bar range) and 0-4 bar (for 0-2 and 0-4 range)

Note

The pressure must be always regulating while increasing. For a more precise regulation and higher sensibility, the use of a regulator with a pressure range as close as possible to the regulated pressure is recommended. In order to ensure adequate flow on the auto drain version it is recommended to use minimum a 6mm fitting.

Technical characteristics

Connections	G 1/4" - G 3/8"
Max. inlet pressure	13 bar
Minimum working pressure with automatic drain	0,5 bar
Maximum working pressure with automatic drain	10 bar
Working temperature	-5°C +50°C
Weight with Technopolymer threads	gr. 400
Weight with threaded inserts	gr. 410
Pressure range	0-2 bar / 0-4 bar 0-8 bar / 0-12 bar
Filter pore size	5 μm - 20 μm - 50 μm
Bowl capacity	34 cm^3
Assembly positions	Vertical
Max. fitting torque (with Technopolymer threads)	G3/8" = 16 Nm
Max. fitting torque (with threaded inserts)	G1/4" = 20 Nm G3/8" = 25 Nm

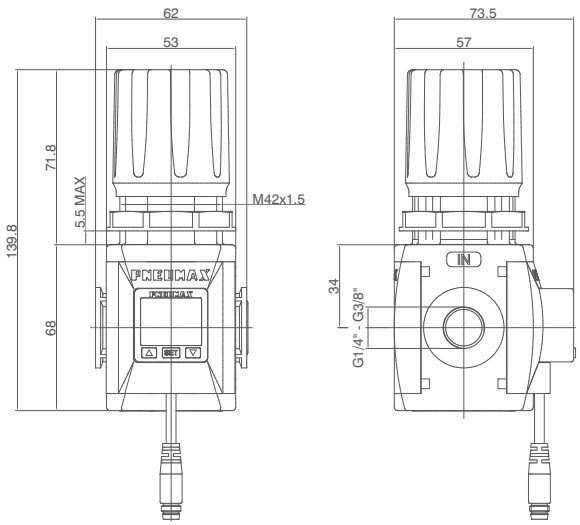
Ordering code

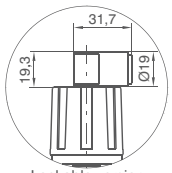
V172CEDSGTO

V	VERSION
	N = Metal inserts
	T = Technopolymer thread
C	CONNECTIONS
	A = G1/4" (only for "N" version)
	B = G3/8"
	C = G3/8" NPT (only for "N" version)
D	FLOW DIRECTION
	M = from left to right
	W = from right to left
S	FILTER PORE SIZE
	A = 5 μm
	B = 20 μm
	C = 50 μm
G	ADJUSTING RANGE
	A = 0-2 bar
	B = 0-4 bar
	C = 0-8 bar
	D = 0-12 bar
T	TYPE
	= Standard *
	S = Automatic drain
O	OPTIONS
	= Standard *
	K = Lockable version

* no additional letter required

Regulator with pressure switch (RP)(RZ)



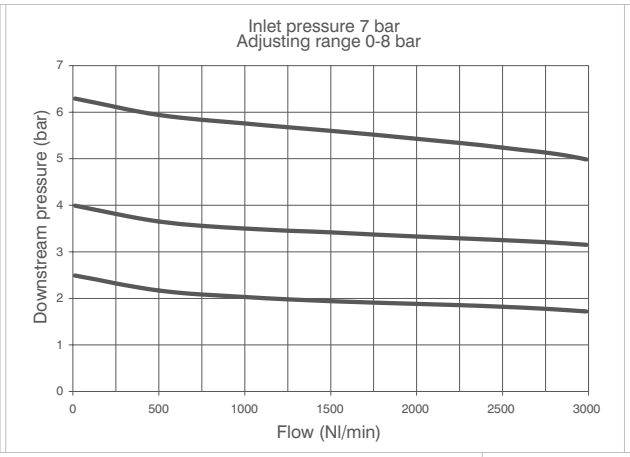


Lockable version
Detail

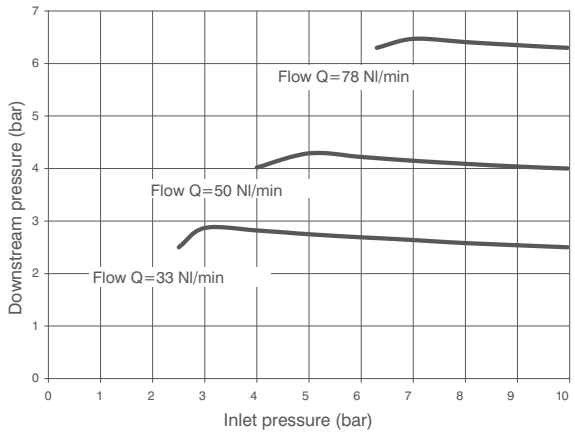
Example : T172BRPCA : size 2, Regulator with Technopolymer threads, G3/8" connections, 0 to 8 bar adjusting range, with pressure switch with M8 connector PNP

3

Flow rate curves



Adjustment characteristics



Operational characteristics

- Diaphragm pressure regulator with relieving.
- Low hysteresis rolling diaphragm.
- Balanced system.
- Available in four pressure ranges up to 12 bar.
- Operating knob can be locked in position by pressing it down once the desired P2 (regulated pressure) pressure value is achieved.
- Fitted with panel mounting locking ring.
- Pressure switch as standard

Note

The pressure must be always regulating while increasing. For a more precise regulation and higher sensibility, the use of a regulator with a pressure range as close as possible to the regulated pressure is recommended.

Technical characteristics

Connections	G 1/4" - G 3/8"
Max. inlet pressure	13 bar
Working temperature	0°C +50°C
Weight with Technopolymer threads	gr. 300
Weight with threaded inserts	gr. 310
Pressure range	0-2 bar / 0-4 bar 0-8 bar / 0-12 bar
Assembly positions	Indifferent
Max. fitting torque (with Technopolymer threads)	G3/8" = 16 Nm
Max. fitting torque (with threaded inserts)	G1/4" = 20 Nm G3/8" = 25 Nm

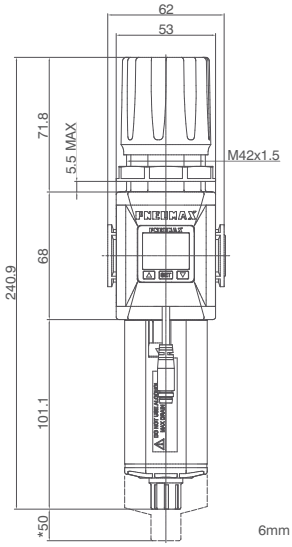
Ordering code

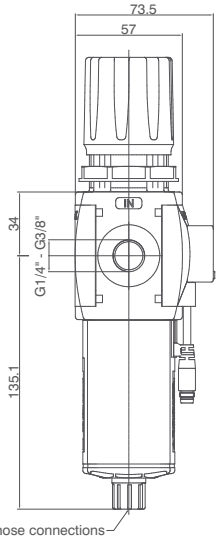
V172CRDGTOP

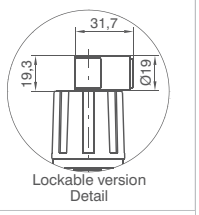
V	VERSION
	N = Metal inserts
	T = Technopolymer thread
C	CONNECTIONS
	A = G1/4" (only for "N" version)
	B = G3/8"
	C = G3/8" NPT (only for "N" version)
D	FLOW DIRECTION
	P = from left to right
	Z = from right to left
G	ADJUSTING RANGE
	A = 0-2 bar
	B = 0-4 bar
	C = 0-8 bar
	D = 0-12 bar
T	TYPE
	= Standard *
	F = Controlled refiel + improved relieving
	L = no relieving
	R = Improved relieving
O	OPTIONS
	= Standard *
	K = Lockable version
P	PRESSURE SWITCH OPTION
	A = Cable 150 mm+M8 PNP
	B = Cable 150 mm+M8 NPN
	C = Cable 2 mt. PNP
	D = Cable 2 mt. NPN

* no additional letter required

Filter regulator with pressure switch (EP)(EZ)



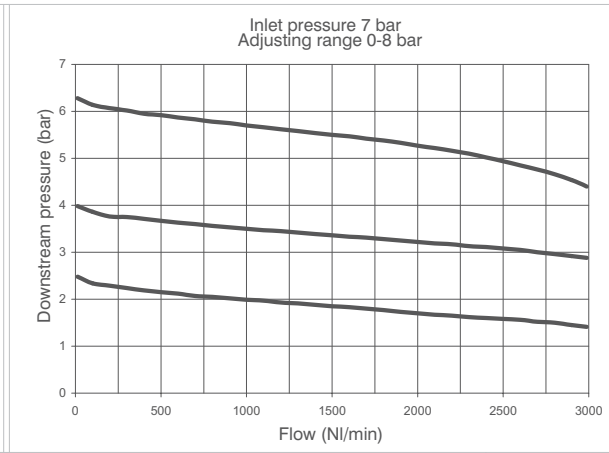




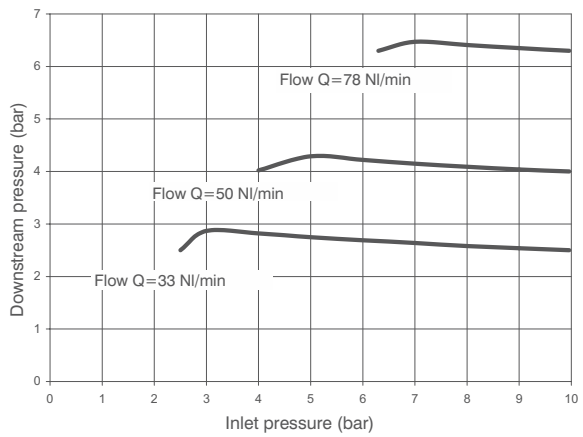
* Bowl removal maximum height

Example: T172BEPBCA : size 2, Filter-regulator with Technopolymer threads, G3/8" connections, 20 μm filtering pore size, 0 to 8 bar adjusting range, with pressure switch with M8 connector PNP

Flow rate curves



Adjustment characteristics



Operational characteristics

- Filter - diaphragm pressure regulator with relieving.
- Low hysteresis rolling diaphragm.
- Balanced system.
- Double filtering action: air flow centrifugation and filter element.
- Filtering element made of HDPE (high density polyethylene) available in three different filtration grades (5μm, 20μm and 50μm) can be regenerated by washing it or replaced.
- Transparent bowl made off polycarbonate with bowl protection guard.
- Bowl assembly via bayonet type quick coupling mechanism with safety button.
- Semi-automatic drain mounted as standard; automatic drain upon request
- Available in four pressure ranges up to 12 bar.
- Operating knob can be locked in position by pressing it down once the desired P2 (regulated pressure) pressure value is achieved.
- Fitted with panel mounting locking ring.
- Pressure switch as standard

Note

The pressure must be always regulating while increasing. For a more precise regulation and higher sensibility, the use of a regulator with a pressure range as close as possible to the regulated pressure is recommended. In order to ensure adequate flow on the auto drain version it is recommended to use minimum a 6mm fitting.

Technical characteristics

Connections	G 1/4" - G 3/8"
Max. inlet pressure	13 bar
Minimum working pressure with automatic drain	0,5 bar
Maximum working pressure with automatic drain	10 bar
Working temperature	0°C +50°C
Weight with Technopolymer threads	gr. 400
Weight with threaded inserts	gr. 410
Pressure range	0-2 bar / 0-4 bar 0-8 bar / 0-12 bar
Filter pore size	5 μm - 20 μm - 50 μm
Bowl capacity	34 cm^3
Assembly positions	Vertical
Max. fitting torque (with Technopolymer threads)	G3/8" = 16 Nm
Max. fitting torque (with threaded inserts)	G1/4" = 20 Nm G3/8" = 25 Nm

Ordering code

V172CEDSGTOP

V	VERSION
	N = Metal inserts
	T = Technopolymer thread
C	CONNECTION
	A = G1/4"(only for "N" version)
	B = G3/8"
	C = G3/8" NPT(only for "N" version)
D	FLOW DIRECTION
	P = from left to right
	Z = from right to left
S	FILTER PORE SIZE
	A = 5 μm
	B = 20 μm
	C = 50 μm
G	ADJUSTING RANGE
	A = 0-2 bar
	B = 0-4 bar
	C = 0-8 bar
	D = 0-12 bar
T	TYPE
	= Standard *
	S = Automatic drain
O	OPTIONS
	= Standard *
	K = Lockable version
P	PRESSURE SWITCH OPTION
	A = Cable 150 mm+M8 PNP
	B = Cable 150 mm+M8 NPN
	C = Cable 2 mt. PNP
	D = Cable 2 mt. NPN

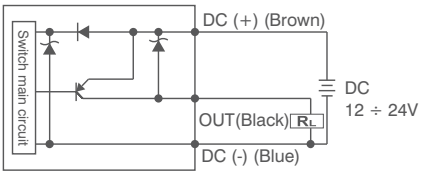
* no additional letter required

CHARACTERISTICS

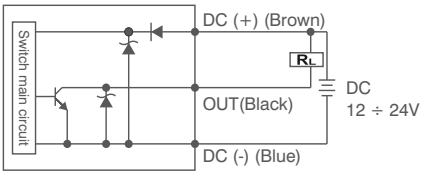
- 3 color digital LCD display, easy readout
- 4 units of measurement for pressure indication
- PNP and NPN output
- N.O. and N.C. output contact
- Not available individually, but only with a Regulator or a Filter-regulator

OUTPUT CIRCUIT WIRING DIAGRAMS

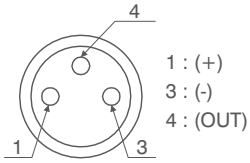
PNP output



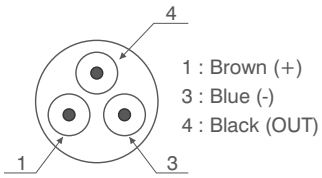
NPN output



M8 CONNECTOR PIN LAY OUT



3 WIRES CABLE LAY OUT



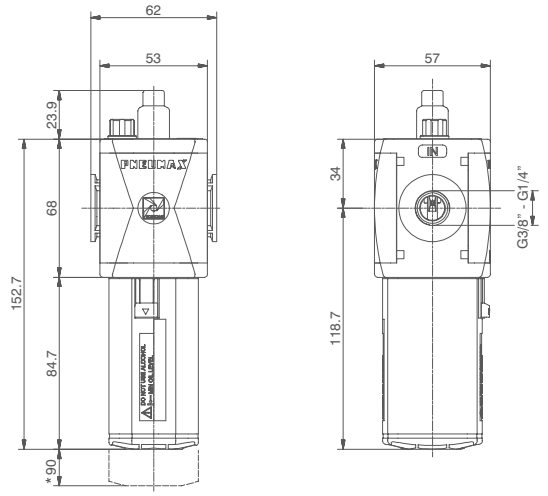
Cable ordering code

MCH1	cable 3 wires l=2,5m with M8 connector
MCH2	cable 3 wires l=5m with M8 connector
MCH3	cable 3 wires l=10m with M8 connector

Connector

TECHNICAL CHARACTERISTICS	
Adjusting range	0 ÷ 10 bar / 0 ÷ 1MPa
Max. inlet pressure	15 bar / 1,5 MPa
Fluid	Filtered and dehumidified air
Display unit of measurement	MPa - kgf/cm² - bar - psi
Supply voltage	12 ÷ 24 VDC
Current consumption	≤40mA (without load)
Digital output type	NPN - PNP
Type of contact	Normally Open - Normally Closed
Max. load current	125 mA
Digital output activation mode	single threshold with fixed hysteresis - window with fixed hysteresis - window without hysteresis
Digital output activation time	0.05s - 0.25s - 0.5s - 1s - 2s - 3s (selections for chattering-proof function)
Display characteristics	Double 3 1/2 digit display Digital output status indication Three-pushbuttons touchpad
Indicator accuracy	≤±2% F.S. ± 1 digit
Protection grade	IP 40
Temperature	0 ÷ 50 °C
Cable section	3 x 0,129mm², Ø4 mm, PVC

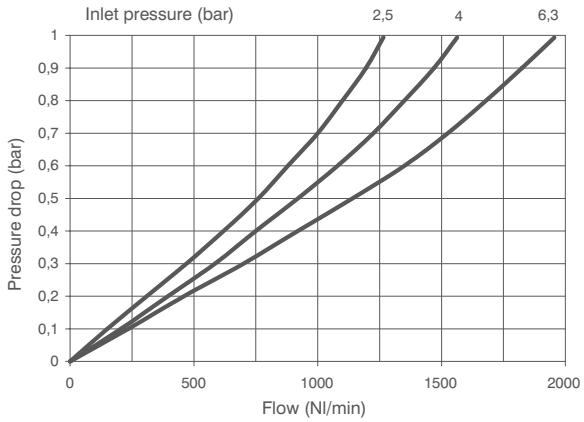
Lubricator (L)



*Bowl removal maximum height

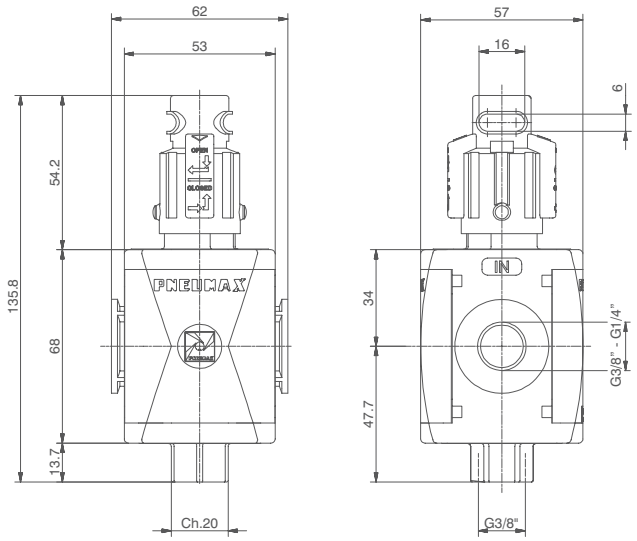
Example : T172BL : size 2, Lubricator with Technopolymer threads, G3/8" connections

Flow rate curves



Operational characteristics	Technical characteristics		
- Oil mist lubrication with variable orifice size in function of the flow rate - Oil quantity regulation mechanism and oil quantity visualization dome made of polycarbonate. - Transparent bowl made off polycarbonate with bowl protection guard. - Bowl assembly via bayonet type quick coupling mechanism with safety button. - Oil filling plug - Oil can be refilled with pressurized circuit. - Available with electric min-level sensor N.O. or N.C. with connection for connector. - For electrical connection use connectors type C1-C2-C3 (see sensors chapter in the catalogue).	Connections	G 1/4" - G 3/8"	Ordering code
	Max. inlet pressure	13 bar	ⓋT172ⒸLⓄ
	Working temperature	-5°C +50°C	
	Weight with Technopolymer threads	gr. 210	Ⓥ VERSION N = Metal inserts T = Technopolymer thread
	Weight with threaded inserts	gr. 220	
	Indicative oil drip rate	1 drop every 300/600 Nl	Ⓒ CONNECTIONS A = G1/4" (only for "N" version) B = G3/8" C = G3/8" NPT (only for "N" version)
	Oil type	FD22 - HG32	
	Bowl capacity	70 cm^3	Ⓞ OPTIONS A = Min. Oil level indicator Normally open C = Min. Oil level indicator Normally closed
	Assembly positions	Vertical	
	Max. fitting torque (with Technopolymer threads)	G3/8" = 16 Nm	
	Max. fitting torque (with threaded inserts)	G1/4" = 20 Nm G3/8" = 25 Nm	
Note Install as close as possible to the point o fuse Do not use alcohol, deterging oils or solvents.	Min. operational flow at 6,3 bar	70 Nl/min.	

Shut-off valve (VL)



Example: T172BVL : size 2, Shut-off valve with Technopolymer threads, G3/8" connections

3

Operational characteristics

- Manual operated 3 ways poppet valve.
- Double handle action for valve opening: pushing and rotating (clockwise).
- The valve can be closed and the down stream circuit depressurized by rotating anticlockwise the knob.
- Knob lockable with three padlocks.

Technical characteristics

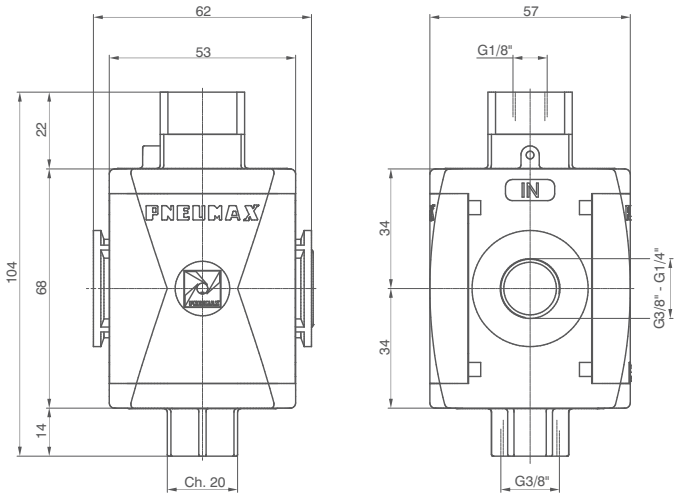
Connections	G 1/4" - G 3/8"
Max. inlet pressure	13 bar
Discharge connection	G3/8"
Working temperature	-5°C ÷ +50°C
Weight with Technopolymer threads	gr. 180
Weight with threaded inserts	gr. 190
Assembly positions	Indifferent
Handle opening and closing angle	90°
Max. fitting torque (with Technopolymer threads)	G3/8" = 16 Nm
Max. fitting torque (with threaded inserts)	G1/4" = 20 Nm G3/8" = 25 Nm
Nominal flow rate at 6 bar with Δp=1	2200 Nl/min.
Exhaust nominal flow rate at 6 bar with Δp=1	1500 Nl/min.

Ordering code

Ⓥ172Ⓒ VL

Ⓥ	VERSION
	N = Metal inserts
	T = Technopolymer thread
Ⓒ	CONNECTIONS
	A = G1/4" (only for "N" version)
	B = G3/8"
	C = G3/8" NPT (only for "N" version)

Pneumatic shut-off valve (VP)

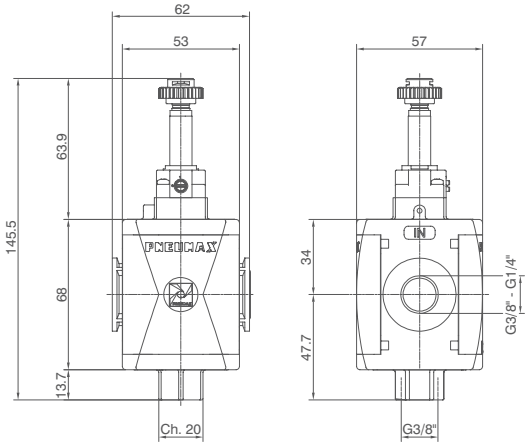


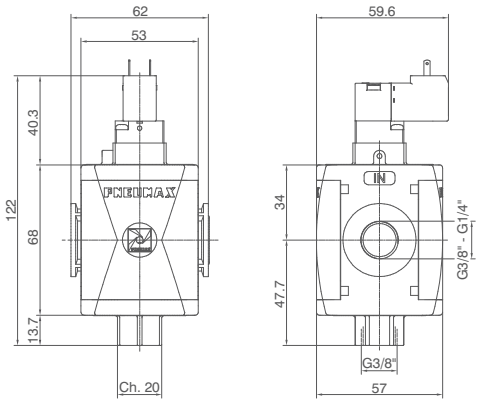
Example: T172BVP : size 2, Pneumatic shut-off valve with Technopolymer threads, G3/8" connections

Operational characteristics	Technical characteristics		Ordering code
- Pneumatic operated 3 ways poppet valve. - When the pneumatic signal is removed the valves exhaust the pneumatic circuit	Connections	G 1/4" - G 3/8"	
	Discharge connection	G3/8"	**Ⓥ172ⒸVP**
	Pilot port size	G1/8"	
	Working temperature	-5°C +50°C	Ⓥ VERSION N = Metal inserts T = Technopolymer thread
	Weight with technopolymer threads	gr. 173	
	Weight with threaded inserts	gr. 181	Ⓒ CONNECTIONS A = G1/4" (only for "N" version) B = G3/8" C = G3/8" NPT (only for "N" version)
	Assembly positions	Indifferent	
	Min. pressure working	2,5 bar	
	Max. pressure working	10 bar	
	Max. fitting torque (with Technopolymer threads)	G3/8" = 16 Nm	
	Max. fitting torque (with threaded inserts)	G1/4" = 20 Nm G3/8" = 25 Nm	
	Nominal flow rate at 6 bar with Δp=1	2200 Nl/min.	
	Exhaust nominal flow rate at 6 bar with Δp=1	1500 Nl/min.	

3

Electric shut-off valve (VE)





Example : T172BVEB2 : size 2, Electric shut-off valve, with M2 Pilot without coil, Technopolymer threads, G3/8" connections

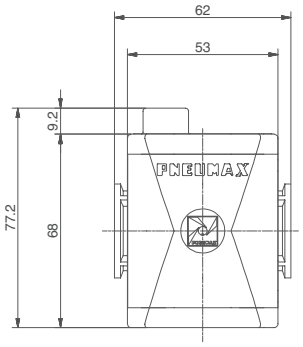
Operational characteristics	Technical characteristics		
- Solenoid operated 3 ways poppet valve. - The model fitted with 15 mm pilots uses pilots series N33_0A and N33_0E (1 Watt)	Supply and operating connections	G 1/4" - G 3/8"	
	Discharge connections	G 3/8"	
	Working temperature	-5°C +50°C	
	Weight with Technopolymer threads	200 g	
	Weight with threaded inserts	210 g	
	Assembly positions	Indifferent	
	Min. Pressure working	2,5 bar	
	Max. Pressure working	10 bar	
	Max. fitting torque (with Technopolymer threads)	G3/8"= 16 Nm	
	Max. fitting torque (with threaded inserts)	G1/4" = 20 Nm G3/8" = 25 Nm	
	Nominal flow rate at 6 bar with Δp=1	2200 Nl/min.	
	Exhaust nominal flow rate at 6 bar with Δp=1	1500 Nl/min.	

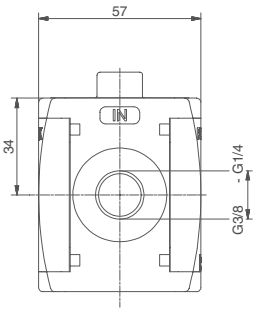
Ordering code

Ⓥ172ⒸVEⒶ

Ⓥ	VERSION
	N = Metal inserts
	T = Technopolymer thread
Ⓒ	CONNECTIONS
	A = G1/4"(only for "N" version)
	B = G3/8"
	C = G3/8" NPT(only for "N" version)
Ⓐ	15 mm COIL VOLTAGE
	A4 = 12 V DC
	A5 = 24 V DC
	A6 = 24 V AC (50-60 Hz)
	A7 = 110 V AC (50-60 Hz)
	A8 = 220 V AC (50-60 Hz)
	A9 = 24 V DC (1 Watt)
	22 mm COIL VOLTAGE
	B2 = Without coil M2 mechanic
	B4 = 12 V DC
	B5 = 24 V DC
	B6 = 24 V AC (50-60 Hz)
	B7 = 110 V AC (50-60 Hz)
	B8 = 220 V AC (50-60 Hz)
	B9 = 24 V DC (2 Watt)
	30 mm COIL VOLTAGE
	C5 = 24 V DC
	C6 = 24 V AC (50-60 Hz)
	C7 = 110 V AC (50-60 Hz)
	C8 = 230 V AC (50-60 Hz)
	C9 = 24 V DC (2 Watt)

Progressive start-up valve (AP)

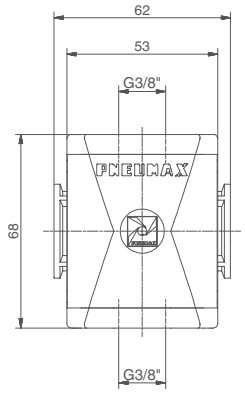


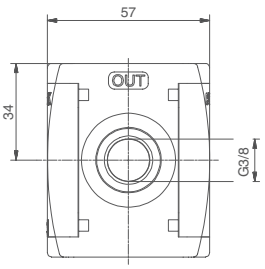


Example : T172BAP : size 2, Progressive start-up valve with Technopolymer threads, G3/8" connections

Operational characteristics	Technical characteristics		
- Down stream circuit filling time regulated via a built in flow regulator. - Full pressure is allowed once the down stream circuit pressure reaches 50% of the inlet pressure.	Connections	G 1/4" - G 3/8"	Ordering code
	Max. inlet pressure	13 bar	**Ⓥ172ⒸAP**
	Working temperature	-5°C +50°C	
	Weight with Technopolymer threads	gr. 140	Ⓥ VERSION N = Metal inserts T = Technopolymer thread
	Weight with threaded inserts	gr. 150	
	Max. fitting torque (with Technopolymer threads)	G3/8" = 16 Nm	Ⓒ CONNECTIONS A = G1/4" (only for "N" version) B = G3/8" C = G3/8" NPT (only for "N" version)
	Max. fitting torque (with threaded inserts)	G1/4" = 20 Nm G3/8" = 25 Nm	
	Assembly positions	Indifferent	
	Min. pressure working	2,5 bar	
	Nominal flow rate at 6 bar with Δp=1	2200 Nl/min.	
	Fully open built in flow regulator flow rate	200 Nl/min.	

Air intake (PA)

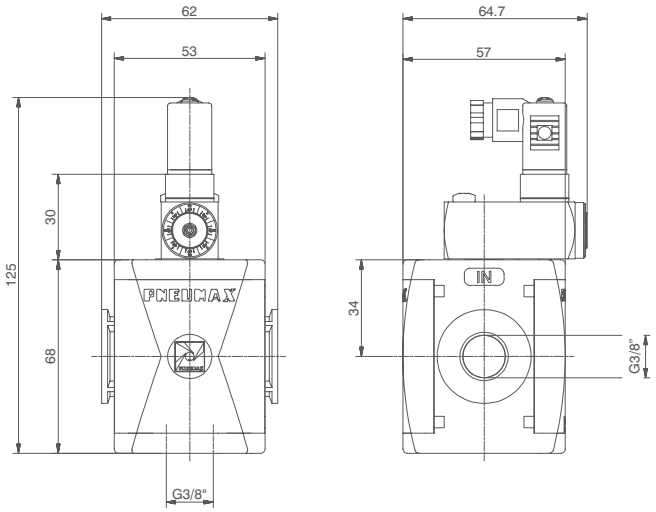




Example : T172BPA : size 2, Air intake with Technopolymer threads, G3/8" connections

Operational characteristics	Technical characteristics		
- Available with two G3/8" threaded connections. **Attenction** For this product are available only Technopolymer connections	Connections	G 3/8"	Ordering code
	Max. inlet pressure	13 bar	**T172BPA**
	Working temperature	-5°C +50°C	
	Weight	gr. 95,5	
	Assembly positions	Indifferent	
	Max. fitting torque (with Technopolymer threads)	G3/8" = 16 Nm	

Pressure switch (PP)



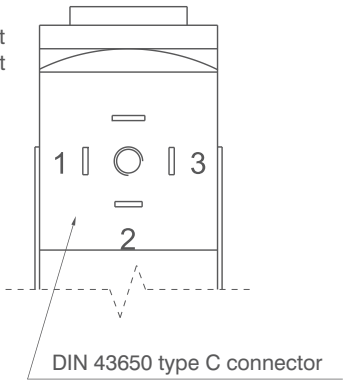
Example: T172BPP : Size 2, Pressure switch with Technopolymer threads, G3/8" connections

3

Operational characteristics	Technical characteristics		
- Built in adjustable pressure switch (2 to 10 bar) with electrical connection. - G 3/8" threaded connection on the bottom face. - The electrical connection is made by mean of a 15 mm connector DIN 43650 type C. The microswitch contact could be normally closed or open (change overswitch). **Attenction** For this product are available only Technopolymer connections	Connections	G 3/8"	Ordering code
	Max. inlet pressure	13 bar	**T172BPP**
	Working temperature	-5°C +50°C	
	Weight	gr. 179	
	Microswitch capacity	1A	
	Grade of protection (with connector assembled)	IP 65	
	Adjusting range	2 -10 bar	
	Assembly positions	Indifferent	
	Max. fitting torque (with Technopolymer threads)	G3/8" = 16 Nm	
	Microswitch maximum tension	250 VAC	

Connection

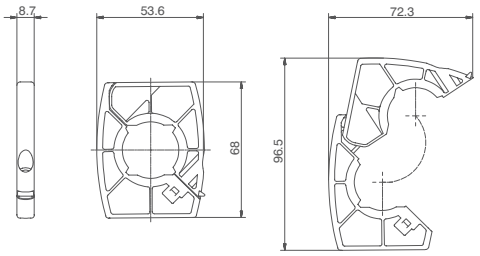
1 = neutral
2 = N.C. contact
3 = N.O. contact



Flange X

Ordering code

T172X

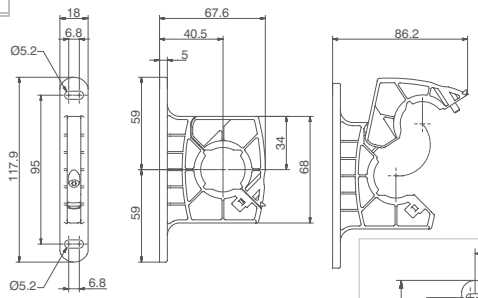


Weight 21 gr.
Example : T172X : Size 2 coupling flange
- Enables the quick connnection of two functions.

Flange Y

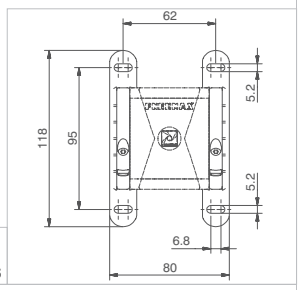
Ordering code

T172Y



Weight 33 gr.
Example : T172Y : Size 2 coupling flange with mounting holes
- Used to couple together two elements and
  to panel mount them.
- Used to panel mount one single element.

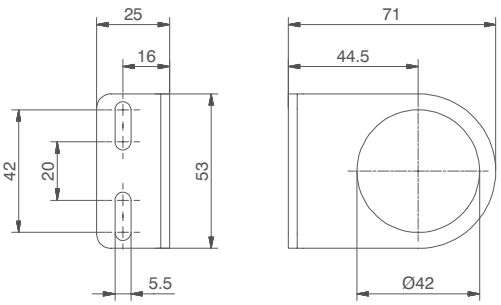
Single unit panel mounting dimensions



Fixing bracket

Ordering code

T17250



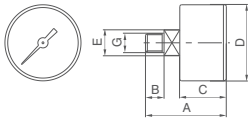
Weight 71 gr.
- Allows for regulators and filter regulators to be panel mounted.

Pressure gauge

Ordering code

17070Ⓥ.Ⓢ

Ⓥ	VERSION
	A = Dial Ø40
	B = Dial Ø50
Ⓢ	SCALE
	A = Scale 0-4 bar
	B = Scale 0-6 bar
	C = Scale 0-12 bar

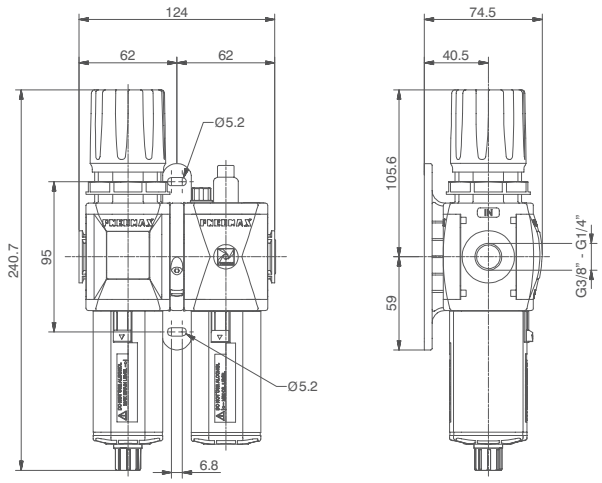


DIMENSIONS

CODE	A	B	C	D	E	G	Weight gr.
17070A	44	10	26	41	14	1/8"	60
17070B	45	10	27	49	14	1/8"	80

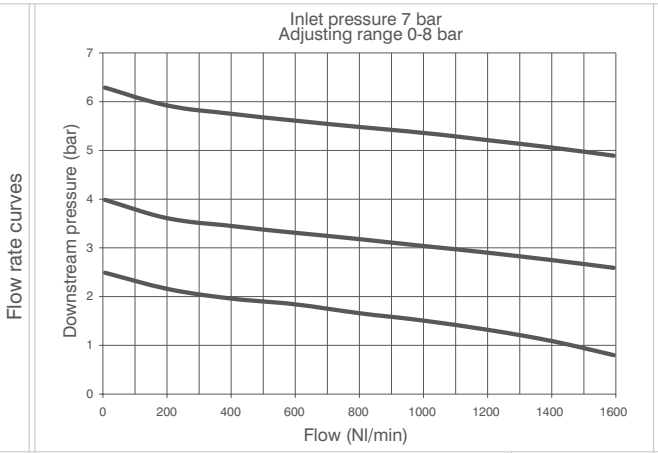
3

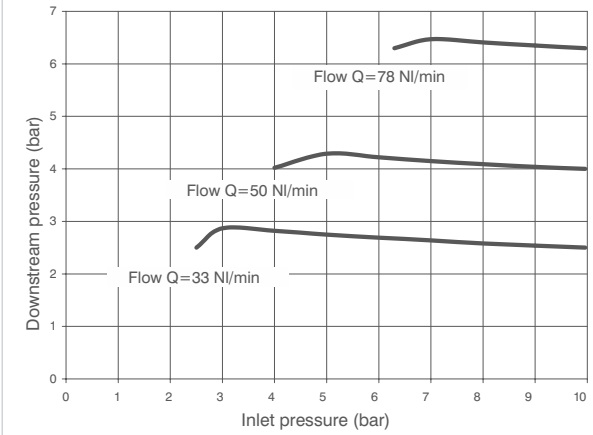
Service unit assembled (EM+L) (E+L) (EW+L)



Example : GT172BHG : size 2, combined group comprising Filter-regulator and Lubricator, Technopolymer threads, G3/8" connections, 0 to 8 bar adjusting range and 20 μm filter pore size

3





Operational characteristics

Combined group comprising Filter-regulator with built in manometer and Lubricator assembled with a (Y) type coupling kit for panel mounting.
Integrated manometer 0-12 bar as standard (for 0-8 and 0-12 bar range) and 0-4 bar (for 0-2 and 0-4 range)

Note

The pressure must be always regulating while increasing. For a more precise regulation and higher sensibility, the use of a regulator with a pressure range as close as possible to the regulated pressure is recommended.

* no additional letter required

Technical characteristics

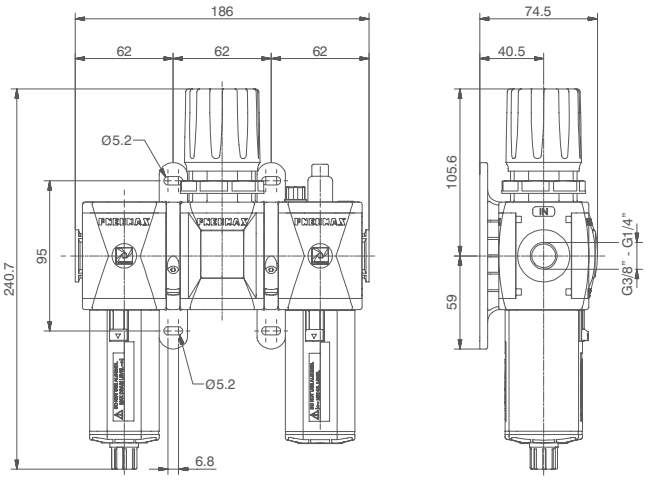
Connections	G 1/4" - G 3/8"
Max. inlet pressure	13 bar
Working temperature	-5°C +50°C
Weight with Technopolymer threads	gr. 643
Weight with threaded inserts	gr. 663
Pressure range	0-2 bar / 0-4 bar 0-8 bar / 0-12 bar
Filter pore size	5 μm - 20 μm - 50 μm
Bowl capacity	34 cm^3
Indicative oil drip rate	1 drop every 300/600 Nl
Oil type	FD22 - HG32
Bowl capacity	70 cm^3
Assembly positions	Vertical
Max. fitting torque (with Technopolymer threads)	G3/8" = 16 Nm
Max. fitting torque (with threaded inserts)	G1/4" = 20 Nm G3/8" = 25 Nm
Min. operational flow at 6,3 bar	70 Nl/min.

Ordering code

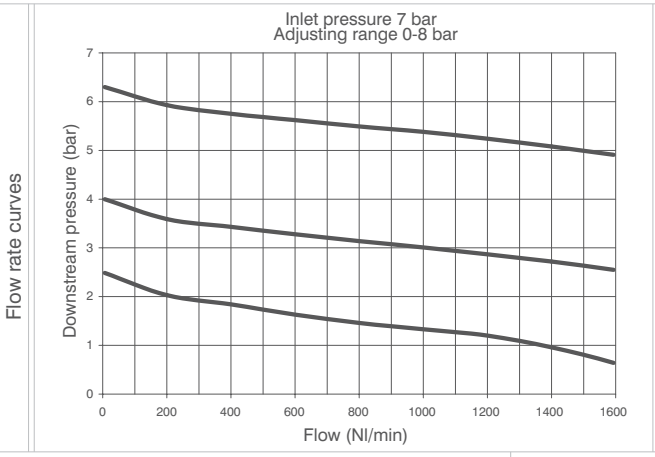
GⓋ172ⒸⓉⓈⓄⒹ

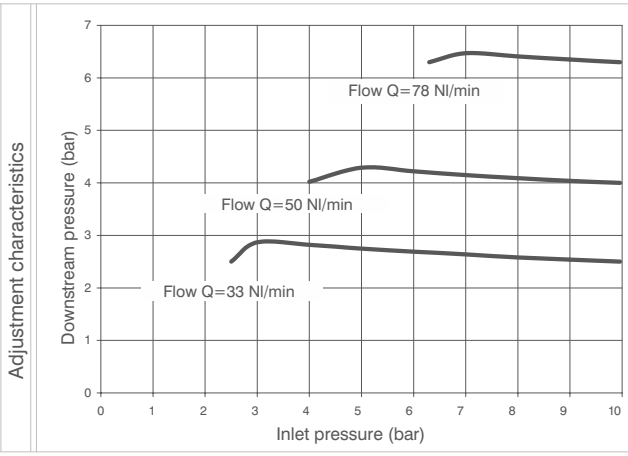
Ⓥ	VERSION
	N = Metal inserts
	T = Technopolymer thread
Ⓒ	CONNECTIONS
	A = G1/4"(only for "N" version)
	B = G3/8"
	C = G3/8" NPT(only for "N" version)
Ⓣ	TYPE
	H =Built in gauge
	J = G1/8" gauge connection
Ⓢ	FILTER PORE SIZE ADJUSTING RANGE
	C = 5 μm / 0-8 bar
	D = 5 μm / 0-12 bar
	G = 20 μm / 0-8 bar
	H = 20 μm / 0-12 bar
	N = 50 μm / 0-8 bar
	P = 50 μm / 0-12 bar
Ⓞ	OPTIONS
	= Standard *
	A = Min.oil level indicator NO
	C = Min.oil level indicator NC
	S = Automatic drain
	SA = Automatic drain + Min.oil level indicator NO
	SC = Automatic drain + Min.oil level indicator NC
Ⓓ	FLOW DIRECTION
	= Standard (from left to right)
	W = from right to left

Service unit assembled (F+RM+L) (F+R+L) (F+RW+L)



Example : GT172BKG : size 2 combined group comprising Filter, Regulator and Lubricator Technopolymer threads, G3/8" connections, 0 to 8 bar adjusting range and 20 μm filter pore size





Operational characteristics

Combined group comprising Filter, Regulator with built in manometer and Lubricator assembled with two (Y) type coupling kits for panel mounting.
Integrated manometer 0-12 bar as standard (for 0-8 and 0-12 bar range) and 0-4 bar (for 0-2 and 0-4 range)

Note

The pressure must be always regulating while increasing. For a more precise regulation and higher sensibility, the use of a regulator with a pressure range as close as possible to the regulated pressure is recommended.

* no additional letter required

Technical characteristics

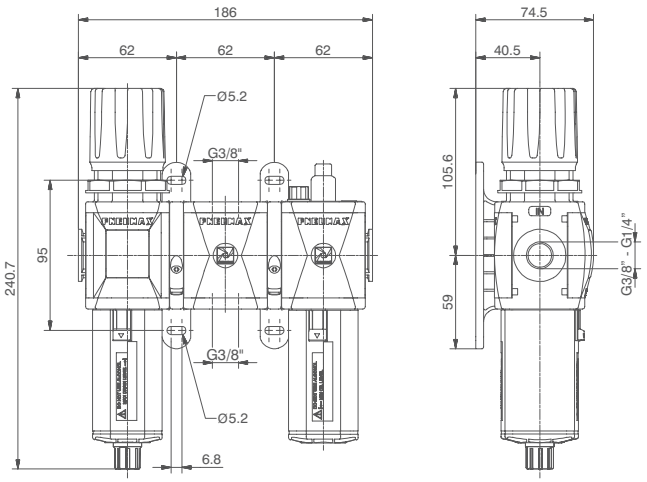
Connections	G 1/4" - G 3/8"
Max. inlet pressure	13 bar
Working temperature	-5°C +50°C
Weight with Technopolymer threads	gr. 796
Weight with threaded inserts	gr. 826
Pressure range	0-2 bar / 0-4 bar 0-8 bar / 0-12 bar
Filter pore size	5 μm - 20 μm - 50 μm
Bowl capacity	34 cm^3
Indicative oil drip rate	1 drop every 300/600 Nl
Oil type	FD22 - HG32
Bowl capacity	70 cm^3
Assembly positions	Vertical
Max. fitting torque (with Technopolymer threads)	G3/8" = 16 Nm
Max. fitting torque (with threaded inserts)	G1/4" = 20 Nm G3/8" = 25 Nm
Min. operational flow at 6,3 bar	70 Nl/min.

Ordering code

GⓋ172ⒸⓉⓈⓄⒹ

Ⓥ	VERSION
	N = Metal inserts
	T = Technopolymer thread
Ⓒ	CONNECTIONS
	A = G1/4"(only for "N" version)
	B = G3/8"
	C = G3/8" NPT(only for "N" version)
Ⓣ	TYPE
	K = Built in gauge
	T = G1/8" gauge connection
Ⓢ	FILTER PORE SIZE ADJUSTING RANGE
	C = 5 μm / 0-8 bar
	D = 5 μm / 0-12 bar
	G = 20 μm / 0-8 bar
	H = 20 μm / 0-12 bar
	N = 50 μm / 0-8 bar
	P = 50 μm / 0-12 bar
Ⓞ	OPTIONS
	= Standard *
	A = Min.oil level indicator NO
	C = Min.oil level indicator NC
	S = Automatic drain
	SA = Automatic drain + Min.oil level indicator NO
	SC = Automatic drain + Min.oil level indicator NC
Ⓓ	FLOW DIRECTION
	= Standard (from left to right)
	W = from right to left

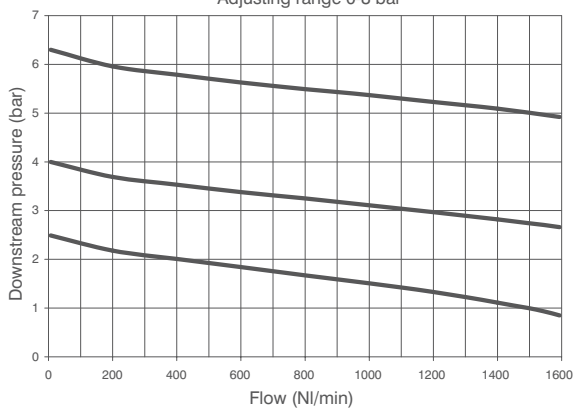
Service unit assembled (EM+PA+L) (E+PA+L) (EW+PA+L)



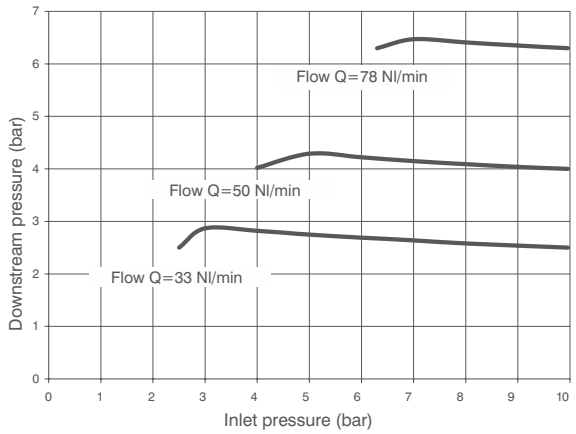
Example : GT172BNG : size 2 combined group comprising Filter-regulator, Air intake and Lubricator Technopolymer threads, G3/8" connections, 0 to 8 bar adjusting range and 20 μm filter pore size

3

Flow rate curves



Adjustment characteristics



Operational characteristics

Combined group comprising Filter-regulator with built in manometer, Air intake and Lubricator assembled with two (Y) type coupling kits for panel mounting.
Integrated manometer 0-12 bar as standard (for 0-8 and 0-12 bar range) and 0-4 bar (for 0-2 and 0-4 range)

Note

The pressure must be always regulating while increasing. For a more precise regulation and higher sensibility, the use of a regulator with a pressure range as close as possible to the regulated pressure is recommended.

* no additional letter required

Technical characteristics

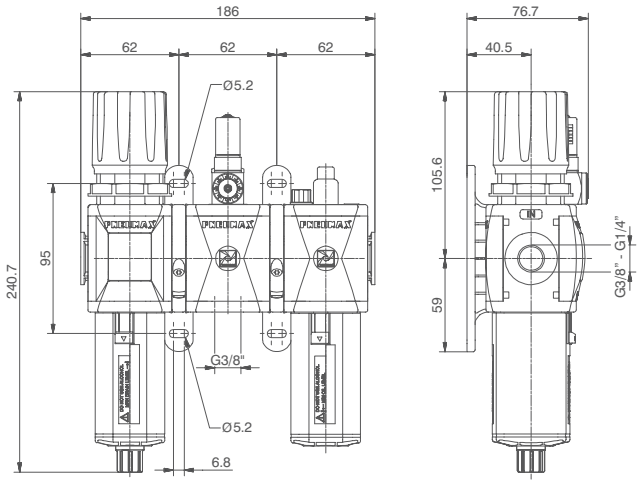
Connections	G 1/4" - G 3/8"
Max. inlet pressure	13 bar
Working temperature	-5°C +50°C
Weight with Technopolymer threads	gr. 771,5
Weight with threaded inserts	gr. 791,5
Pressure range	0-2 bar / 0-4 bar 0-8 bar / 0-12 bar
Filter pore size	5 μm - 20 μm - 50 μm
Bowl capacity	34 cm^3
Indicative oil drip rate	1 drop every 300/600 Nl
Oil type	FD22 - HG32
Bowl capacity	70 cm^3
Assembly positions	Vertical
Max. fitting torque (with Technopolymer threads)	G3/8" = 16 Nm
Max. fitting torque (with threaded inserts)	G1/4" = 20 Nm G3/8" = 25 Nm
Min. operational flow at 6,3 bar	70 Nl/min.

Ordering code

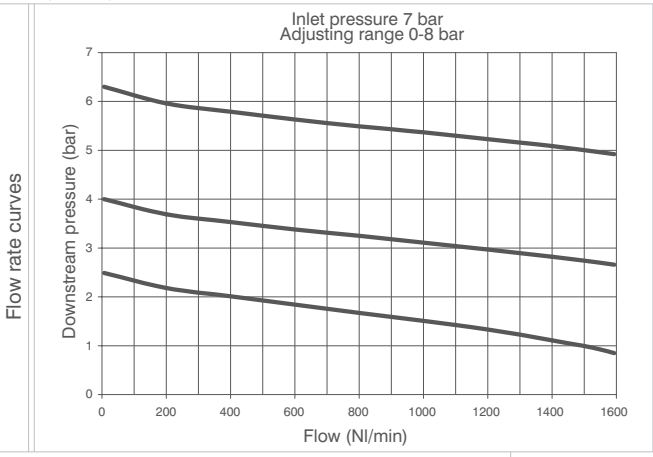
GV172CTSOD

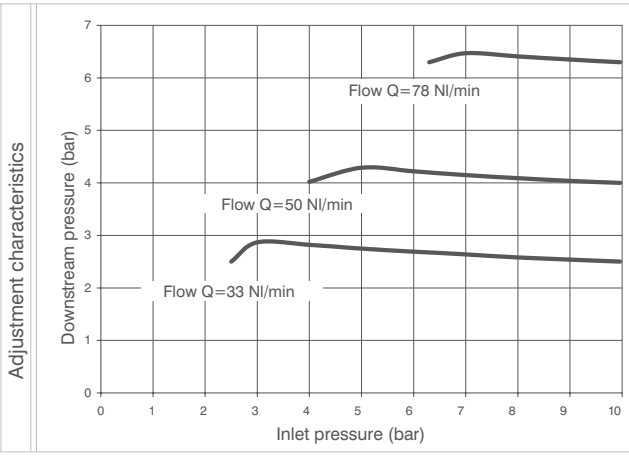
V	VERSION
	N = Metal inserts
	T = Technopolymer thread
C	CONNECTIONS
	A = G1/4"(only for "N" version)
	B = G3/8"
	C = G3/8" NPT(only for "N" version)
T	TYPE
	N = Built in gauge
	P = G1/8" gauge connection
S	FILTER PORE SIZE ADJUSTING RANGE
	C = 5 μm / 0-8 bar
	D = 5 μm / 0-12 bar
	G = 20 μm / 0-8 bar
	H = 20 μm / 0-12 bar
	N = 50 μm / 0-8 bar
	P = 50 μm / 0-12 bar
O	OPTIONS
	= Standard *
	A = Min.oil level indicator NO
	C = Min.oil level indicator NC
	S = Automatic drain
	SA = Automatic drain + Min.oil level indicator NO
	SC = Automatic drain + Min.oil level indicator NC
D	FLOW DIRECTION
	= Standard (from left to right)
	W = from right to left

Service unit assembled (EM+PP+L) (E+PP+L) (EW+PP+L)



Example : GT172BRG : size 2 combined group comprising Filter-Regulator, Pressure switch and Lubricator Technopolymer threads, G3/8" connections 0 to 8 bar adjusting range and 20 μm filter pore size





Operational characteristics

Combined group comprising Filter-regulator with built in manometer, Pressure switch and Lubricator assembled with two (Y) type coupling kits for panel mountings.
Integrated manometer 0-12 bar as standard (for 0-8 and 0-12 bar range) and 0-4 bar (for 0-2 and 0-4 range)

Note

The pressure must be always regulating while increasing. For a more precise regulation and higher sensibility, the use of a regulator with a pressure range as close as possible to the regulated pressure is recommended.

* no additional letter required

Technical characteristics

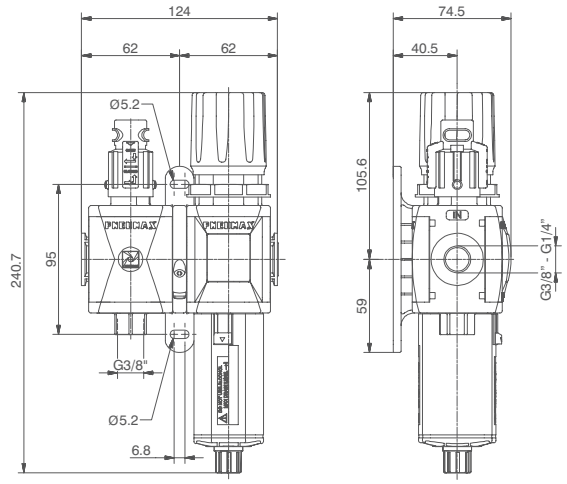
Connections	G 1/4" - G 3/8"
Max. inlet pressure	13 bar
Working temperature	-5°C +50°C
Weight with Technopolymer threads	gr. 855
Weight with threaded inserts	gr. 875
Pressure range	0-2 bar / 0-4 bar 0-8 bar / 0-12 bar
Filter pore size	5 μm - 20 μm - 50 μm
Bowl capacity	34 cm^3
Indicative oil drip rate	1 drop every 300/600 Nl
Oil type	FD22 - HG32
Bowl capacity	70 cm^3
Assembly positions	Vertical
Max. fitting torque (with Technopolymer threads)	G3/8" = 16 Nm
Max. fitting torque (with threaded inserts)	G1/4" = 20 Nm G3/8" = 25 Nm
Min. operational flow at 6,3 bar	70 Nl/min.

Ordering code

GⓋ172ⒸⓉⓈⓄⒹ

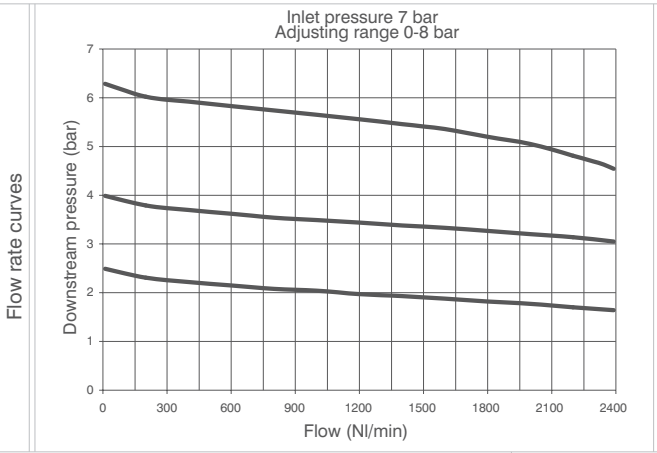
Ⓥ	VERSION
	N = Metal inserts
	T = Technopolymer thread
Ⓒ	CONNECTIONS
	A = G1/4"(only for "N" version)
	B = G3/8"
	C = G3/8" NPT(only for "N" version)
Ⓣ	TYPE
	R = Built in gauge
	C = G1/8" gauge connection
Ⓢ	FILTER PORE SIZE ADJUSTING RANGE
	C = 5 μm / 0-8 bar
	D = 5 μm / 0-12 bar
	G = 20 μm / 0-8 bar
	H = 20 μm / 0-12 bar
	N = 50 μm / 0-8 bar
	P = 50 μm / 0-12 bar
Ⓞ	OPTIONS
	= Standard *
	A = Min.oil level indicator NO
	C = Min.oil level indicator NC
	S = Automatic drain
	SA = Automatic drain + Min.oil level indicator NO
	SC = Automatic drain + Min.oil level indicator NC
Ⓓ	FLOW DIRECTION
	= Standard (from left to right)
	W = from right to left

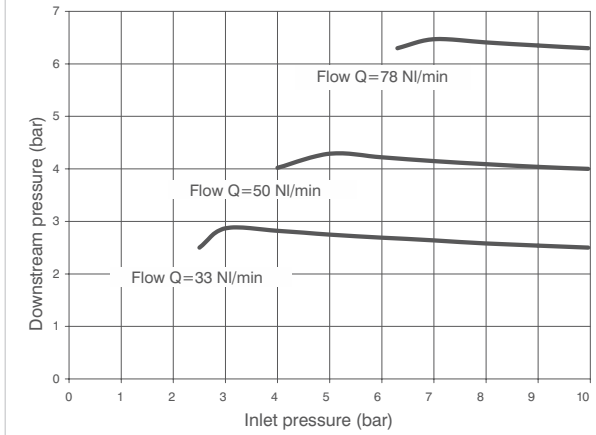
Service unit assembled (VL+EM) (VL+E) (VL+EW)



Example : GT172BVGG : size 2 combined group comprising Shut-off valve, Filter-regulator Technopolymer threads, G3/8" connections 0 to 8 bar adjusting range and 20 μm filter pore size

3





Operational characteristics

Combined group comprising manual shut-off valve, Filter - regulator with built in manometer, assembled with one (Y) type coupling kit for panel mountings.
Integrated manometer 0-12 bar as standard (for 0-8 and 0-12 bar range) and 0-4 bar (for 0-2 and 0-4 range)

Note

The pressure must be always regulating while increasing. For a more precise regulation and higher sensibility, the use of a regulator with a pressure range as close as possible to the regulated pressure is recommended.

Technical characteristics

Connections	G 1/4" - G 3/8"
Max. inlet pressure	13 bar
Working temperature	-5°C +50°C
Weight with Technopolymer threads	gr. 613
Weight with threaded inserts	gr. 633
Pressure range	0-2 bar / 0-4 bar 0-8 bar / 0-12 bar
Filter pore size	5 μm - 20 μm - 50 μm
Bowl capacity	34 cm^3
Indicative oil drip rate	1 drop every 300/600 Nl
Oil type	FD22 - HG32
Bowl capacity	70 cm^3
Assembly positions	Vertical
Max. fitting torque (with Technopolymer threads)	G3/8"= 16 Nm
Max. fitting torque (with threaded inserts)	G1/4" = 20 Nm G3/8" = 25 Nm
Min. operational flow at 6,3 bar	70 Nl/min.

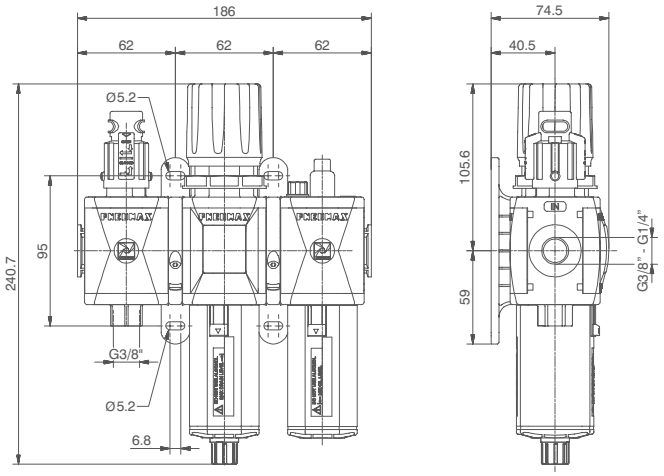
Ordering code

GⓋ172ⒸⓉⓈⓄⒹ

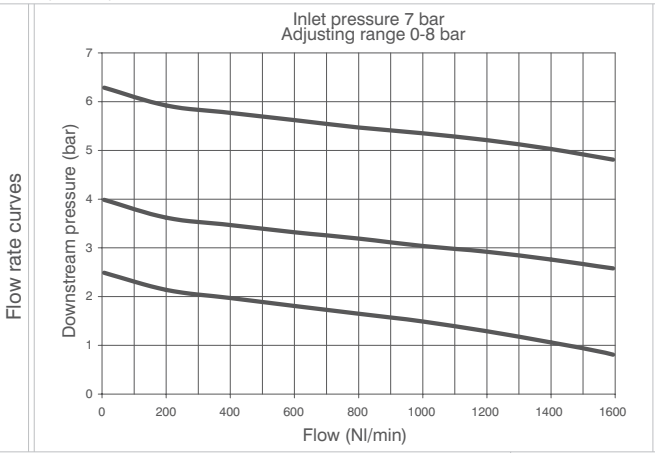
Ⓥ	VERSION
	N = Metal inserts
	T = Technopolymer thread
Ⓒ	CONNECTIONS
	A = G1/4"(only for "N" version)
	B = G3/8"
	C = G3/8" NPT(only for "N" version)
Ⓣ	TYPE
	VG = Built in gauge
	VU = G1/8" gauge connection
Ⓢ	FILTER PORE SIZE ADJUSTING RANGE
	C = 5 μm / 0-8 bar
	D = 5 μm / 0-12 bar
	G = 20 μm / 0-8 bar
	H = 20 μm / 0-12 bar
	N = 50 μm / 0-8 bar
	P = 50 μm / 0-12 bar
Ⓞ	OPTIONS
	= Standard *
	S = Automatic drain
Ⓓ	FLOW DIRECTION
	= Standard (from left to right)
	W = from right to left

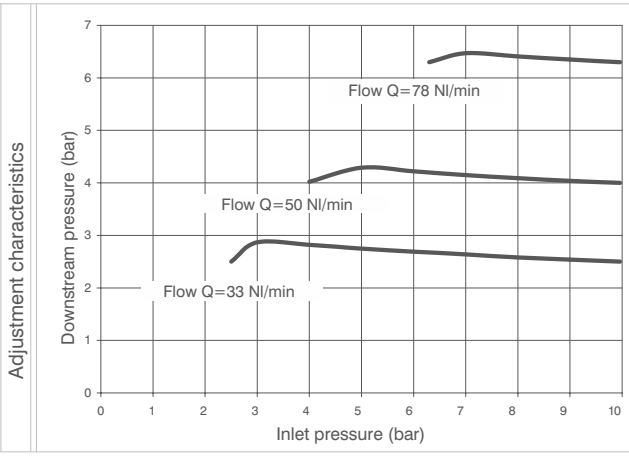
* no additional letter required

Service unit assembled (VL+EM+L) (VL+E+L) (VL+EW+L)



Example : GT172BVHG : size 2 combined group comprising Shut-off valve, Filter-regulator and Lubricator Technopolymer threads, G3/8" connections 0 to 8 bar adjusting range and 20 μm filter pore size





Operational characteristics

Combined group comprising manual shut-off valve, Filter - regulator with built in manometer and Lubricator assembled with two(Y) type coupling kits for panel mountings.
Integrated manometer 0-12 bar as standard (for 0-8 and 0-12 bar range) and 0-4 bar (for 0-2 and 0-4 range)

Note

The pressure must be always regulating while increasing. For a more precise regulation and higher sensibility, the use of a regulator with a pressure range as close as possible to the regulated pressure is recommended.

* no additional letter required

Technical characteristics

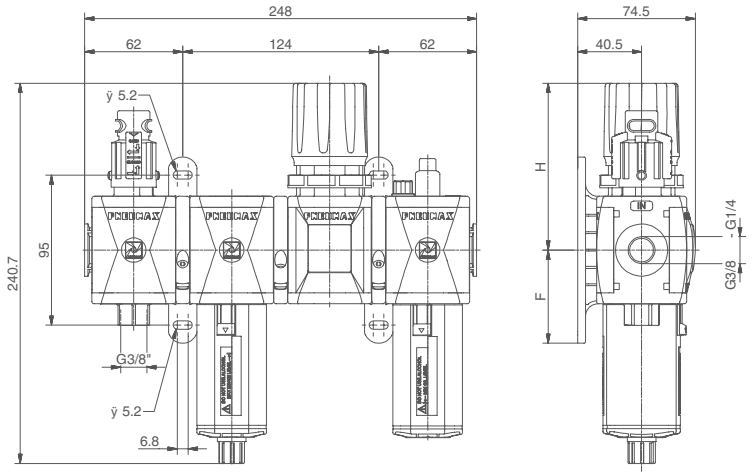
Connections	G 1/4" - G 3/8"
Max. inlet pressure	13 bar
Working temperature	-5°C +50°C
Weight with Technopolymer threads	gr. 856
Weight with threaded inserts	gr. 886
Pressure range	0-2 bar / 0-4 bar 0-8 bar / 0-12 bar
Filter pore size	5 μm - 20 μm - 50 μm
Bowl capacity	34 cm^3
Indicative oil drip rate	1 drop every 300/600 Nl
Oil type	FD22 - HG32
Bowl capacity	70 cm^3
Assembly positions	Vertical
Max. fitting torque (with Technopolymer threads)	G3/8" = 16 Nm
Max. fitting torque (with threaded inserts)	G1/4" = 20 Nm G3/8" = 25 Nm
Min. operational flow at 6,3 bar	70 Nl/min.

Ordering code

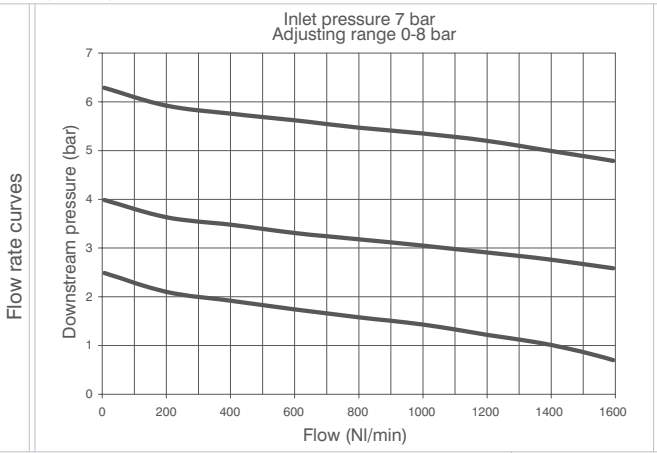
GⓋ172ⒸⓉⓈⓄⒹ

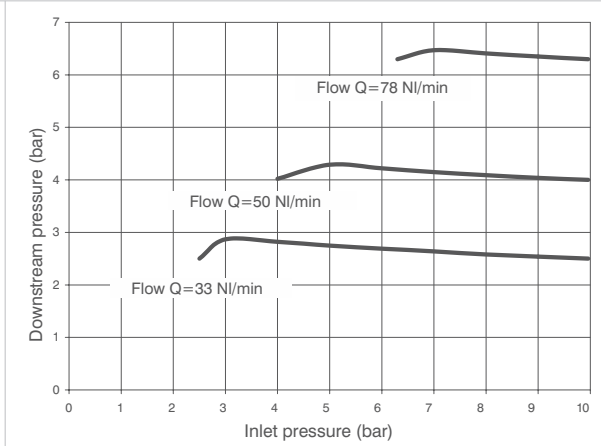
Ⓥ	VERSION
	N = Metal inserts
	T = Technopolymer thread
Ⓒ	CONNECTIONS
	A = G1/4"(only for "N" version)
	B = G3/8"
	C = G3/8" NPT(only for "N" version)
Ⓣ	TYPE
	VH = Built in gauge
	VJ = G1/8" gauge connection
Ⓢ	FILTER PORE SIZE ADJUSTING RANGE
	C = 5 μm / 0-8 bar
	D = 5 μm / 0-12 bar
	G = 20 μm / 0-8 bar
	H = 20 μm / 0-12 bar
	N = 50 μm / 0-8 bar
	P = 50 μm / 0-12 bar
Ⓞ	OPTIONS
	= Standard *
	A = Min.oil level indicator NO
	C = Min.oil level indicator NC
	S = Automatic drain
	SA = Automatic drain + Min.oil level indicator NO
	SC = Automatic drain + Min.oil level indicator NC
Ⓓ	FLOW DIRECTION
	= Standard (from left to right)
	W = from right to left

Service unit assembled (VL+F+RM+L) (VL+F+R+L) (VL+F+RW+L)



Example : GT172BVKG : size 2 combined group comprising Shut-off valve, Filter, Regulator and Lubricator Technopolymer threads, G3/8" connections 0 to 8 bar adjusting range and 20 μm filter pore size





Operational characteristics

Combined group comprising manual shut - off valve, Filter, Regulator with built in manometer and Lubricator , assembled with two (Y) type coupling kits for panel mounting and one (X) type coupling kit.
Integrated manometer 0-12 bar as standard (for 0-8 and 0-12 bar range) and 0-4 bar (for 0-2 and 0-4 range)

Note

The pressure must be always regulating while increasing. For a more precise regulation and higher sensibility, the use of a regulator with a pressure range as close as possible to the regulated pressure is recommended.

* no additional letter required

Technical characteristics

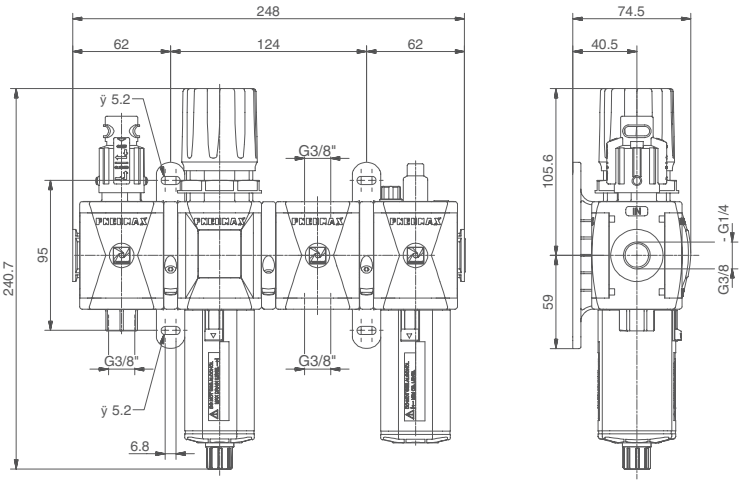
Connections	G 1/4" - G 3/8"
Max. inlet pressure	13 bar
Working temperature	-5°C +50°C
Weight with Technopolymer threads	gr. 997
Weight with threaded inserts	gr. 1037
Pressure range	0-2 bar / 0-4 bar 0-8 bar / 0-12 bar
Filter pore size	5 μm - 20 μm - 50 μm
Bowl capacity	34 cm^3
Indicative oil drip rate	1 drop every 300/600 Nl
Oil type	FD22 - HG32
Bowl capacity	70 cm^3
Assembly positions	Vertical
Max. fitting torque (with Technopolymer threads)	G3/8" = 16 Nm
Max. fitting torque (with threaded inserts)	G1/4" = 20 Nm G3/8" = 25 Nm
Min. operational flow at 6,3 bar	70 Nl/min.

Ordering code

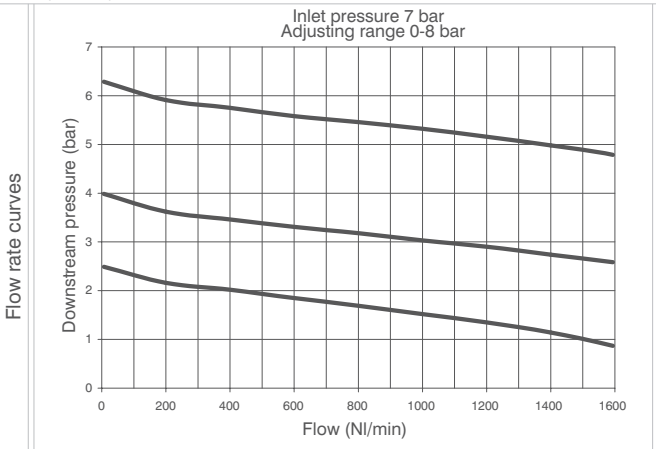
GⓋ172ⒸⓉⓈⓄⒹ

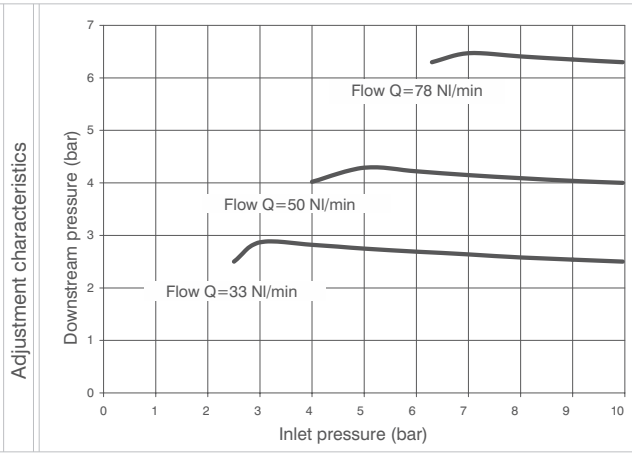
Ⓥ	VERSION
	N = Metal inserts
	T = Technopolymer thread
Ⓒ	CONNECTIONS
	A = G1/4"(only for "N" version)
	B = G3/8"
	C = G3/8" NPT(only for "N" version)
Ⓣ	TYPE
	VK = Built in gauge
	VT = G1/8" gauge connection
Ⓢ	FILTER PORE SIZE ADJUSTING RANGE
	C = 5 μm / 0-8 bar
	D = 5 μm / 0-12 bar
	G = 20 μm / 0-8 bar
	H = 20 μm / 0-12 bar
	N = 50 μm / 0-8 bar
	P = 50 μm / 0-12 bar
Ⓞ	OPTIONS
	= Standard *
	A = Min.oil level indicator NO
	C = Min.oil level indicator NC
	S = Automatic drain
	SA = Automatic drain + Min.oil level indicator NO
	SC = Automatic drain + Min.oil level indicator NC
Ⓓ	FLOW DIRECTION
	= Standard (from left to right)
	W = from right to left

Service unit assembled (VL+EM+PA+L) (VL+E+PA+L) (VL+EW+PA+L)



Example : GT172BVNG : size 2 combined group comprising Shut-off valve, Filter-regulator, Air intake and Lubricator Technopolymer threads, G3/8" connections 0 to 8 baradjusting range and 20 μm filter pore size





Operational characteristics

Combined group comprising manual shut-off valve, Filter - regulator with built in manometer, Air intake and Lubricator, assembled with two (Y) type coupling kits for panel mounting and one (X) type coupling kit.
Integrated manometer 0-12 bar as standard (for 0-8 and 0-12 bar range) and 0-4 bar (for 0-2 and 0-4 range)

Note

The pressure must be always regulating while increasing. For a more precise regulation and higher sensibility, the use of a regulator with a pressure range as close as possible to the regulated pressure is recommended.

* no additional letter required

Technical characteristics

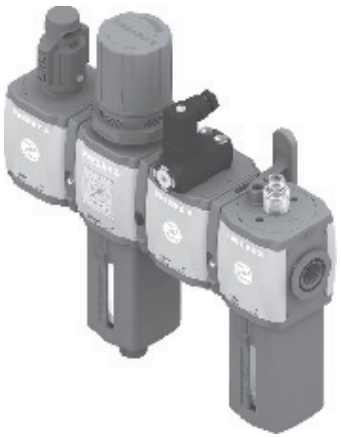
Connections	G 1/4" - G 3/8"
Max. inlet pressure	13 bar
Working temperature	-5°C +50°C
Weight with Technopolymer threads	gr. 972,5
Weight with threaded inserts	gr. 1002,5
Pressure range	0-2 bar / 0-4 bar 0-8 bar / 0-12 bar
Filter pore size	5 μm - 20 μm - 50 μm
Bowl capacity	34 cm^3
Indicative oil drip rate	1 drop every 300/600 Nl
Oil type	FD22 - HG32
Bowl capacity	70 cm^3
Assembly positions	Vertical
Max. fitting torque (with Technopolymer threads)	G3/8" = 16 Nm
Max. fitting torque (with threaded inserts)	G1/4" = 20 Nm G3/8" = 25 Nm
Min. operational flow at 6,3 bar	70 Nl/min.

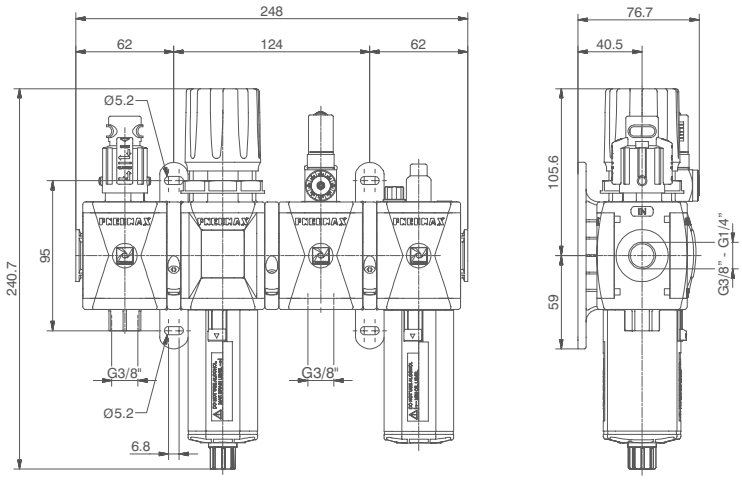
Ordering code

GⓋ172ⒸⓉⓈⓄⒹ

Ⓥ	VERSION
	N = Metal inserts
	T = Technopolymer thread
Ⓒ	CONNECTIONS
	A = G1/4"(only for "N" version)
	B = G3/8"
	C = G3/8" NPT(only for "N" version)
Ⓣ	TYPE
	VN = Built in gauge
	VP = G1/8" gauge connection
Ⓢ	FILTER PORE SIZE ADJUSTING RANGE
	C = 5 μm / 0-8 bar
	D = 5 μm / 0-12 bar
	G = 20 μm / 0-8 bar
	H = 20 μm / 0-12 bar
	N = 50 μm / 0-8 bar
	P = 50 μm / 0-12 bar
Ⓞ	OPTIONS
	= Standard *
	A = Min.oil level indicator NO
	C = Min.oil level indicator NC
	S = Automatic drain
	SA = Automatic drain + Min.oil level indicator NO
	SC = Automatic drain + Min.oil level indicator NC
Ⓓ	FLOW DIRECTION
	= Standard (from left to right)
	W = from right to left

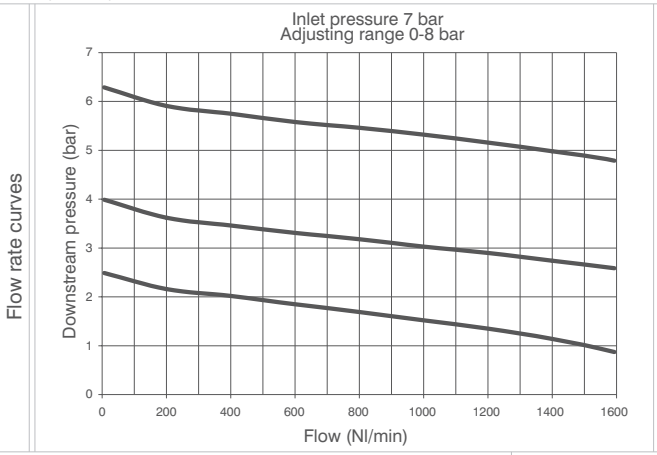
Service unit assembled (VL+EM+PP+L) (VL+E+PP+L) (VL+EW+PP+L)

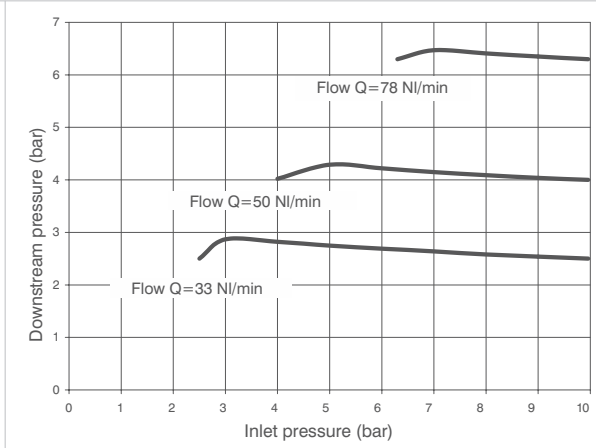




Example : GT172BVRG : size 2 combined group comprising Shut-off valve, Filter-regulator, Pressure switch and Lubricator Technopolymer threads, G3/8" connections adjusting range 0 to 8 bar and 20 μm filter pore size

3





Operational characteristics

Combined group comprising manual shut-off valve, Filter - regulator with built in manometer, Pressure switch and Lubricator, assembled with two (Y) type coupling kits for panel mounting and one (X) type coupling kit.
Integrated manometer 0-12 bar as standard (for 0-8 and 0-12 bar range) and 0-4 bar (for 0-2 and 0-4 range)

Note

The pressure must be always regulating while increasing. For a more precise regulation and higher sensibility, the use of a regulator with a pressure range as close as possible to the regulated pressure is recommended.

* no additional letter required

Technical characteristics

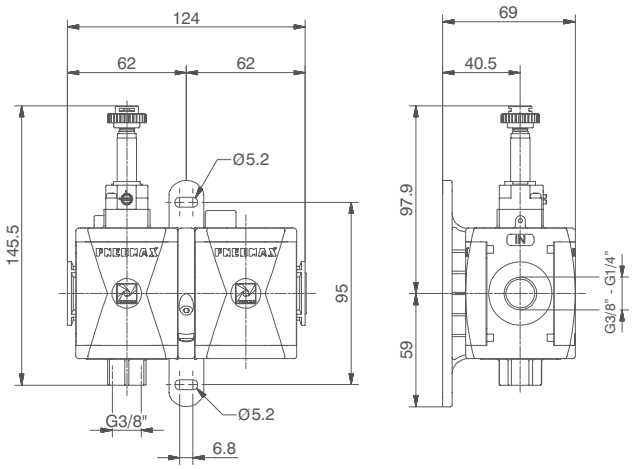
Connections	G 1/4" - G 3/8"
Max. inlet pressure	13 bar
Working temperature	-5°C +50°C
Weight with Technopolymer threads	gr. 1056
Weight with threaded inserts	gr. 1086
Pressure range	0-2 bar / 0-4 bar 0-8 bar / 0-12 bar
Filter pore size	5 μm - 20 μm - 50 μm
Bowl capacity	34 cm^3
Indicative oil drip rate	1 drop every 300/600 Nl
Oil type	FD22 - HG32
Bowl capacity	70 cm^3
Assembly positions	Vertical
Max. fitting torque (with Technopolymer threads)	G3/8" = 16 Nm
Max. fitting torque (with threaded inserts)	G1/4" = 20 Nm G3/8" = 25 Nm
Min. operational flow at 6,3 bar	70 Nl/min.

Ordering code

GV172CTSOD

V	VERSION
	N = Metal inserts
	T = Technopolymer thread
C	CONNECTIONS
	A = G1/4" (only for "N" version)
	B = G3/8"
	C = G3/8" NPT (only for "N" version)
T	TYPE
	VR = Built in gauge
	VC = G1/8" gauge connection
S	FILTER PORE SIZE ADJUSTING RANGE
	C = 5 μm / 0-8 bar
	D = 5 μm / 0-12 bar
	G = 20 μm / 0-8 bar
	H = 20 μm / 0-12 bar
	N = 50 μm / 0-8 bar
	P = 50 μm / 0-12 bar
O	OPTIONS
	= Standard *
	A = Min.oil level indicator NO
	C = Min.oil level indicator NC
	S = Automatic drain
	SA = Automatic drain + Min.oil level indicator NO
	SC = Automatic drain + Min.oil level indicator NC
D	FLOW DIRECTION
	= Standard (from left to right)
	W = from right to left

Service unit assembled (VE+AP)



Example : GT172BSB2 : size 2 combined group comprising Electric shut-off valve, Progressive start-up valve without coil with M2 pilot Technopolymer threads, G3/8" connections

Operational characteristics	Technical characteristics		Ordering code	
Combined group comprising Electric shut - off valve and Progressive start-up valve assembled with a (Y) type coupling kit for panel mounting.	Connections	G 1/4" - G 3/8"	GⓋ172ⒸSⒶ	
	Max. inlet pressure	10 bar		
	Min. inlet pressure	2.5 bar		
	Working temperature	-5°C +50°C	Ⓥ	VERSION
	Weight with Technopolymer threads	gr. 373		N = Metal inserts
	Weight with threaded inserts	gr. 393		T = Technopolymer thread
	Assembly positions	Indifferent	Ⓒ	CONNECTIONS
	Max. fitting torque (with Technopolymer threads)	G3/8" = 16 Nm		A = G1/4"(only for "N" version)
				B = G3/8"
				C = G3/8" NPT(only for "N" version)
	Max. fitting torque (with threaded inserts)	G1/4" = 20 Nm G3/8" = 25 Nm	Ⓐ	15 mm COIL VOLTAGE
				A4 = 12 V DC
				A5 = 24 V DC
				A6 = 24 V AC (50-60 Hz)
				A7 = 110 V AC (50-60 Hz)
				A8 = 220 V AC (50-60 Hz)
				A9 = 24 V DC (1 Watt)
				22 mm COIL VOLTAGE
				B2 = Without coil M2 mechanic
				B4 = 12 V DC
				B5 = 24 V DC
	Flow at 6 bar with Δp=1	1800 Nl/min.		B6 = 24 V AC (50-60 Hz)
				B7 = 110 V AC (50-60 Hz)
				B8 = 220 V AC (50-60 Hz)
				B9 = 24 V DC (2 Watt)
				30 mm COIL VOLTAGE
				C5 = 24 V DC
				C6 = 24 V AC (50-60 Hz)
				C7 = 110 V AC (50-60 Hz)
				C8 = 230 V AC (50-60 Hz)
				C9 = 24 V DC (2 Watt)

Construction and working characteristics

The new FRL units AIRPLUS series represents the evolution of the well known and consolidated 1700 series.
The main features are increased performances, reliability, easy and fast assembly and the introduction of the latest technical features.
With the exception of the air intake module and the pressure switch module all elements are available in two configurations: with technopolimer connections (IN and OUT) , (T series), or with metal threaded inserts , (N series). Bowls made of transparent polycarbonate (PC) are fitted with a bowl protection guard which is assembled on the body via a quick coupling mechanism provided with a safety button. The filter, available with three filtration grades (5μm, 20μm and 50μm) is fitted as standard with a drain mechanism which can be operated manually or semi-automatically. On request is available the auto-drain mechanism. The regulator is based on the rolling diaphragm technology with low hysteresis and the system is balanced. The unit can be fitted with integrated flush mounting pressure gauge (0 to 12 bar range). 4 pressure ranges are available going from 0 to 12 bar and the regulating knob can be blocked in position simply by pressing it down. A dedicated version is available for battery mounting , up to a maximum of 6 units. The lubricator is based on the Venturi principle and the oil quantity is regulated via the adjusting screw positioned don the transparent polycarbonate (PC) regulating dome which also ensure clear visibility of the oil flow and regulation. The oil suction pipe is fitted as standard with a sintered filter which ensures that any contaminant that should be present in the oil will reach the down stream circuit. Shoot off valve is available in two versions, one manually operated and one solenoid operated. In both cases the unit is fitted with a threaded connection for depressurising the downstream circuit. On the manually operated version, in the lock position, it is possible to fit up to three locks in order to prevent the accidental pressurization of the pneumatic circuit avoiding accidents or damages. The solenoid operated version is available with a 15mm or with a 22mm solenoid valve. The soft start valve ensure a progressive pressurization of the down stream circuit avoiding sudden pressure surges which could be dangerous for the devices fitted on the down stream circuit. The filling time can be easily adjusted via a built in flow regulator. The full flow rate is allowed only once the down stream pressure has reached 50% of the value of the inlet pressure. The pressure switch module which can be set between 2 and 10 bar and the air intake module complete the range.
The elements are joint together via dedicated quick coupling technopolimer flanges which allows for the units to be panel mounted moreover ensure the possibility to replace any component without disassembling the FRL group from its position.
90° mounting brackets and standard gauges are also available.

Instruction for installation and operation

The FRL unit must be installed as close as possible to the application. The air flow direction must follow the directions indicated on the single units in correspondence of the threaded connections.(IN and OUT)
Units provided with bowl must be mounted vertically with the bawl facing down. Single units or groups can be panel mounted via the Y type flanges, regulators and filter-regulators can be mounted via the 90° zinc plated steel bracket. In order to mount the 90° bracket it is necessary to remove the regulating knob and then the locking ring before positioning the bracket. All units must be operated according to the specified pressure and temperature ranges; fittings must be mounted without exciding the maximum torque allowed. Ensure that the units cover plates are in position before pressure is applied. The cover plates are needed to lock in position the top part of the unit.
The condense level in filer and filter-regulators bowls must never exceed the maximum level indicated on the bowls. With manual or semi automatic drain the condense can be discharged via a 6/4mm tube directly connected to the drain tap. On the pressure regulator the pressure value must always set wile pressure is rising and ideally the unit pressure range should be chosen based on the pressure value to be regulated.
Lubricators must be filled with class FD22 and HG32 oils. Ensure, both on the inlet and on the outlet , that the flow rate is above the minimum flow rate required to operate the unit. Below this value the units does not operate. The oil quantity can be regulated via the regulating screw on the transparent polycarbonate dome through which it is also clearly visible the oil flow. A drop every 300-600 litres should be allowed.
The oil can be re-filled while the pneumatic circuit is pressurized thanks to the exhaust valve which is built in the refill plug and allows for the bowl to be depressurized and the oil refill directly form in the bowl or from the plug. The manual shot off valve needs, to be operated, a push and turn action (clockwise) in order to close it and discharge the down stream circuit it is necessary to turn anti clock wise the knob. The soft start valve is used to slowly and progressively pressurize the down stream circuit, the time needed to do so can be set by means of the built in flow regulator.
The soft start valve on its own does not allow for the down stream circuit to be discharged, in order to do so it is necessary to combine it with a shot off valve (to be mounted upstream).

Maintenance

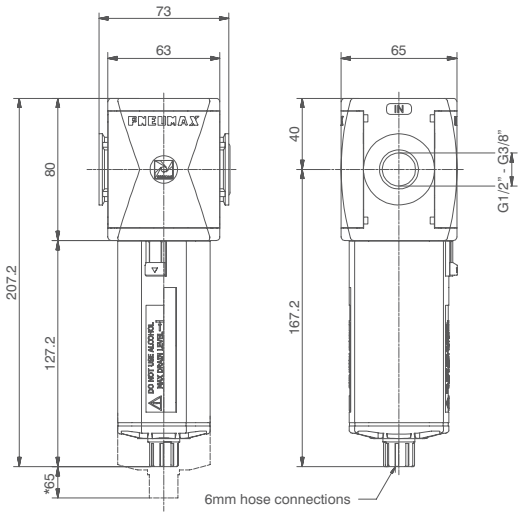
For any maintenance which requires the removal of the top plugs/ supports from the body it is necessary to preventively remove the sides cover plates. If the top plugs\supports are removed with the sides plates still in their position the unit could be permanently damaged.

Bowls , plugs and supports are assembled with a bayonet type mechanism. In order to remove them rotate anti clockwise until the mechanical stop is reached and than remove from the body (for the bowls firstly press down the green safety button). Bowls and transparent parts can be cleaned with water and neutral soap. Do not use solvents or alcohol.
Filtering elements (from filters and filter regulators) made of HDPE can be regenerated by washing and blowing them. In order to remove them it is necessary to remove the bowl unscrew the filter element and replace it with a new one or clean it. The oil can be re-filled while the pneumatic circuit is pressurized thanks to the exhaust valve which is built in the refill plug and allows for the bowl to be depressurized. In order to be able to un-mount the bowl it is necessary unscrew the refill plug positioned near the oil dome, once this operation has been carried out it is possible to remove the bowl to re fill it or to refill from the refill plug. Refilling directly the bowl is suggested.
Should the pressure regulator not perform properly or should present a constant leackage from the relieving replaced the diaphragm by unloading completely the regulating spring before removing the regulation support. Any other maintenance operation, in consideration of the complexity of the assembly, and the need of a through test according to the Pneumax spa specification, should be carried out by the manufacturer.

Fittings maximum recommended torque applicable

THREAD	Technopolymer version (T)	Metal version (N)
G1/8"	4 Nm	15 Nm
G1/4"	9 Nm	20 Nm
G3/8"	16 Nm	25 Nm
G1/2"	22 Nm	30 Nm

Filter (F)

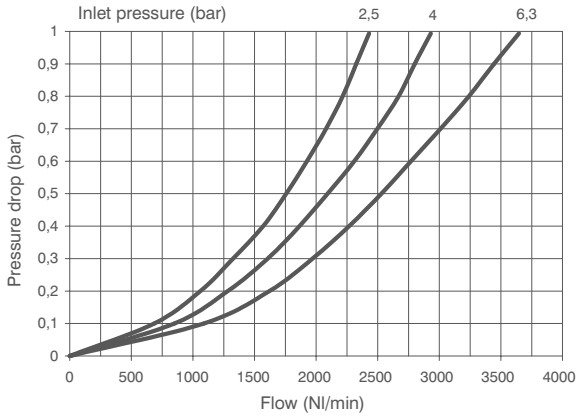


*Bowl removal maximum height

Example: T173BFB : size 3, Filter with Technopolymer threads, G1/2" connections, 20 μm filter pore size

3

Flow rate curves



Operational characteristics	Technical characteristics		
- Double filtering action: air flow centrifugation and filter element	Connections	G 3/8" - G 1/2"	
- Filtering element made of HDPE (high density polyethylene) available in three different filtration grades (5μm, 20μm and 50μm) can be regenerated by washing it or replaced.	Max. inlet pressure	13 bar	
	Minimum working pressure with automatic drain	0,5 bar	
- Transparent bowl made off polycarbonate with bowl protection guard.	Maximum working pressure with automatic drain	10 bar	
- Bowl assembly via bayonet type quick coupling mechanism with safety button.	Working temperature	-5°C +50°C	
	Weight with Technopolymer threads	gr. 320	
- Semi-automatic drain mounted as standard; automatic drain upon request.	Weight with threaded inserts	gr. 340	
	Filter pore size	5 μm - 20 μm - 50 μm	
Note	Bowl capacity	68 cm^3	
In order to ensure adequate flow on the auto drain version it is recommended to use minimum a 6mm fitting.	Assembly positions	Vertical	
	Max. fitting torque (with Technopolymer threads)	G1/2" = 22 Nm	
	Max. fitting torque (with threaded inserts)	G3/8" = 25 Nm G1/2" = 30 Nm	

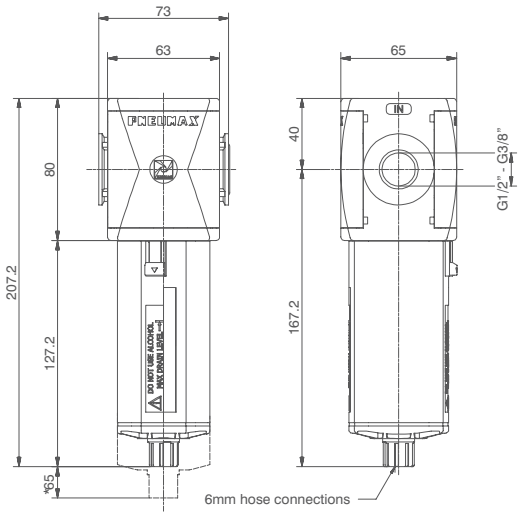
Ordering code

Ⓥ173ⒸFⓈⓄ

Ⓥ	VERSION
	N = Metal inserts
	T = Technopolymer thread
Ⓒ	CONNECTIONS
	A = G3/8"(only for "N" version)
	B = G1/2"
	C = G1/2" NPT(only for "N" version)
Ⓢ	FILTER PORE SIZE
	A = 5 μm
	B = 20 μm
	C = 50 μm
Ⓞ	OPTIONS
	= Standard *
	S = Automatic drain

* no additional letter required

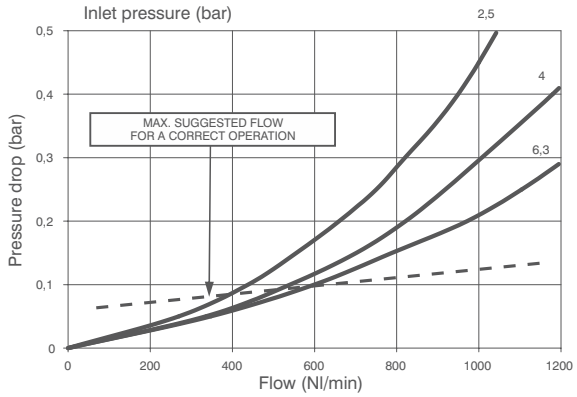
Coalescing filter (D)



*Bowl removal maximum height

Example : T173BDA : Coalescing size 3, Filter with Technopolymer threads, G1/2" connections, filter efficency 99,97%

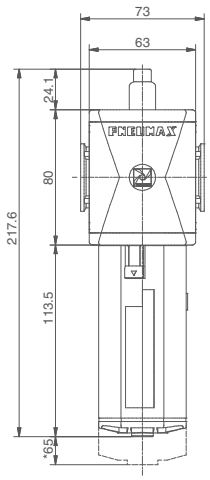
Flow rate curves

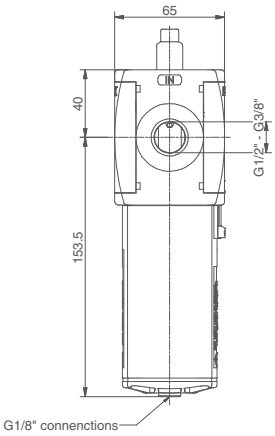


Operational characteristics	Technical characteristics		
- Coalescing filter element with filtration grade of 0,01 μm	Connections	G 3/8" - G 1/2"	Ordering code
- Transparent bowl made off polycarbonate with bowl protection guard.	Max. inlet pressure	13 bar	ⓋT173ⒸDⒺⓄ
- Bowl assembly via bayonet type quick coupling mechanism with safety button.	Minimum working pressure with automatic drain	0,5 bar	Ⓥ VERSION: N = Metal inserts; T = Technopolymer thread
- Semi-automatic drain mounted as standard; automatic drain upon request.	Maximum working pressure with automatic drain	10 bar	Ⓒ CONNECTIONS: A = G3/8" (only for "N" version); B = G1/2"; C = G1/2" NPT (only for "N" version)
Note	Working temperature	-5°C +50°C	
In order to ensure a better grade of filtration it is recommended to use a 5 μm filter before the coalescing filter. In order to ensure adequate flow on the auto drain version it is recommended to use minimum a 6mm fitting.	Weight with Technopolymer threads	gr. 325	
	Weight with threaded inserts	gr. 345	Ⓔ FILTER EFFICIENCY: A = 99,97%
	Filter efficiency with 0,01 μm particle	99,97%	
	Bowl capacity	68cm^3	Ⓞ OPTIONS: = Standard *; S = Automatic drain
	Assembly positions	Vertical	
	Max. fitting torque (with Technopolymer threads)	G1/2" = 22 Nm	
	Max. fitting torque (with threaded inserts)	G3/8" = 25 Nm G1/2" = 30 Nm	

* no additional letter required

Oil removal filter (DB)



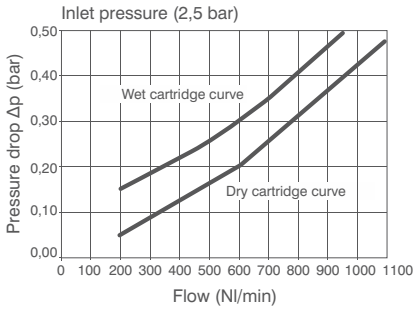


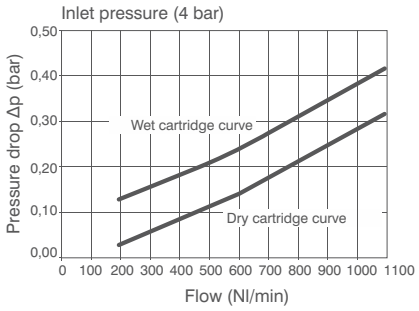
*Bowl removal maximum height

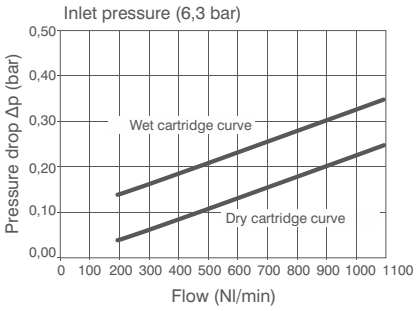
Example : T173BDBV : size 3 Oil removal filter, with clogging gauge, Technopolymer threads, G1/2" connections.

3

Efficiency curve



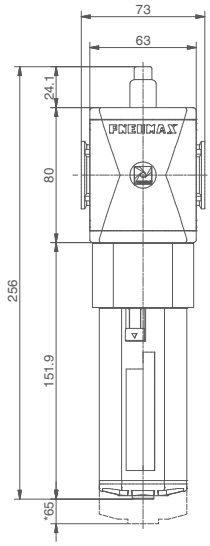


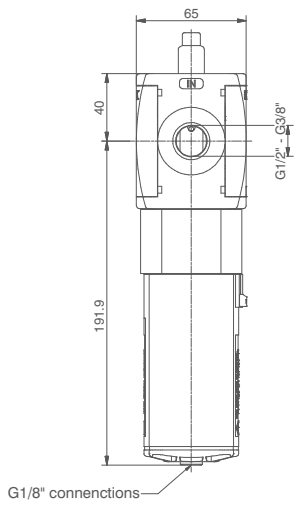


Operational characteristics	Technical characteristics		
- Coalescing filtering cartridge particle removal 0,01 μm oil residual 0,01 ppm - Clogging gauge green: proper working red: clogged cartridge (Δp 0,5 bar) we recommend to change the cartridge - Transparent bowl made off polycarbonate with bowl protection guard. - Bowl assembly via bayonet type quick coupling mechanism with safety button. - Automatic drain mounted as standard.	Connections	G 3/8" - G 1/2"	Ordering code
	Nominal flow at 6,3 bar	1100 Nl/min	**Ⓥ173Ⓒ DBV**
	Filter efficiency	99,99%	
	Max. inlet pressure	13 bar	
	Minimum working pressure with automatic drain	0,5 bar	
	Maximum working pressure with automatic drain	10 bar	
	Working temperature	-5°C ÷ +50°C	
	Weight with Technopolymer threads	gr. 440	
	Weight with threaded inserts	gr. 460	
	Bowl capacity	30 cm^3	
Note	Assembly positions	Vertical	
We recommend installing a 5 μm filter upstream of the oil removal filter. In order to ensure adequate flow on the auto drain version it is recommended to use minimum a 6mm fitting.	Max. fitting torque (with Technopolymer threads)	G1/2" = 22 Nm	
	Max. fitting torque (with threaded inserts)	G3/8" = 25 Nm G1/2" = 30 Nm	

Ⓥ	VERSION N = Metal inserts T = Technopolymer thread
Ⓒ	CONNECTIONS A = G3/8" (only for "N" version) B = G1/2" C = G1/2" NPT (only for "N" version)

High efficiency oil removal filter (DC)

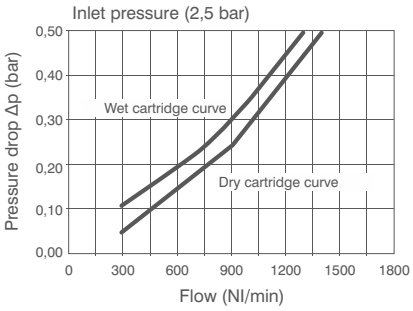


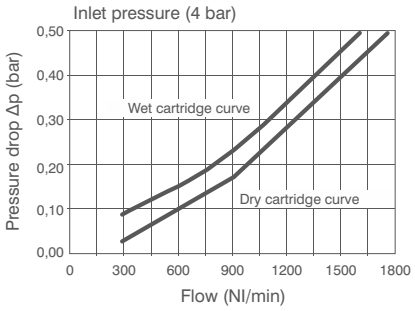


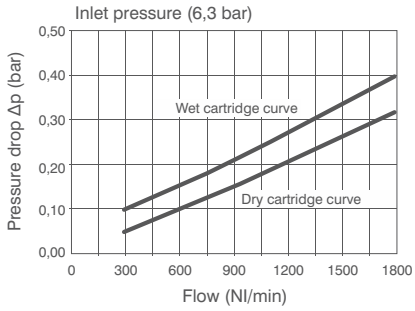
*Bowl removal maximum height

Example: T173BDCV : size 3 High efficiency oil removal filter, with clogging gauge, Technopolymer threads, G1/2" connections.

Efficiency curve







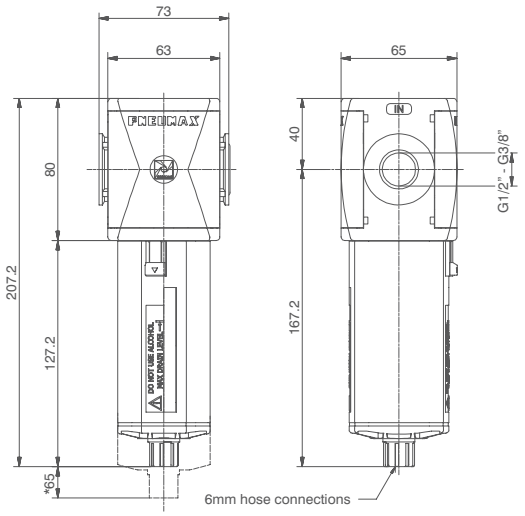
Operational characteristics	Technical characteristics	
- Coalescing filtering cartridge	Connections	G 3/8" - G 1/2"
particle removal 0,01 μm	Nominal flow at 6,3 bar	1800 Nl/min
oil residual 0,01 ppm	Filter efficiency	99,99%
- Clogging gauge	Max. inlet pressure	13 bar
green: proper working	Minimum working pressure with automatic drain	0,5 bar
red: clogged cartridge (Δp 0,5 bar)		
we recommend to change the cartridge	Maximum working pressure with automatic drain	10 bar
- Transparent bowl made off polycarbonate with bowl protection guard.	Working temperature	-5°C ÷ +50°C
- Bowl assembly via bayonet type quick coupling mechanism with safety button.	Weight with Technopolymer threads	gr. 640
	Weight with threaded inserts	gr. 660
- Automatic drain mounted as standard.	Bowl capacity	30 cm^3
Note	Assembly positions	Vertical
We recommend installing a 5 μm filter upstream of the oil removal filter. In order to ensure adequate flow on the auto drain version it is recommended to use minimum a 6mm fitting.	Max. fitting torque (with Technopolymer threads)	G1/2" = 22 Nm
	Max. fitting torque (with threaded inserts)	G3/8" = 25 Nm G1/2" = 30 Nm

Ordering code

Ⓥ173Ⓒ DCV

Ⓥ	VERSION
	N = Metal inserts
	T = Technopolymer thread
Ⓒ	CONNECTIONS
	A = G3/8" (only for "N" version)
	B = G1/2"
	C = G1/2" NPT (only for "N" version)

Carbon filter (DD)

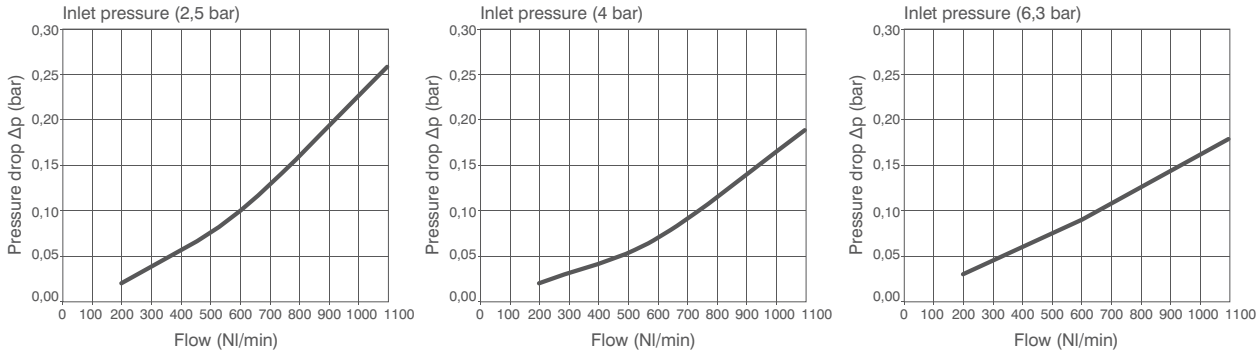


*Bowl removal maximum height

Example : T173BDD : size 3 Carbon filter, Technopolymer threads, G1/2" connections.

3

Efficiency curve



Operational characteristics

- Active carbon cartridge with built in particulate filter. Used to remove oil vapours, hydrocarbons, odours and particles coming from the compressed air lines or gasses in industrial applications. Oil residue up to <0,003 ppm (max imput aereosol 0.01ppm).
- Innovative filtering technology; high absorption capacity, with low differential pressure.
- Transparent bowl made off polycarbonate with bowl protection guard.
- Bowl assembly via bayonet type quick coupling mechanism with safety button.
- Semi-automatic drain mounted as standard.

Note

A 5 micron filter followed by a coalescing filter must be installed before the Oil removal filter in order to ensure the correct functionality of the unit and to safeguard the life of the active carbon cartridge. It is also necessary to preventively replace the cartridges at fixed intervals.

Technical characteristics

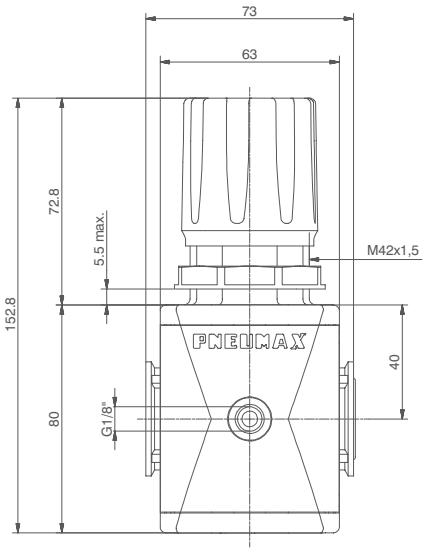
Connections	G 3/8" - G 1/2"
Nominal flow at 6,3 bar	1100 Nl/min
Cartridge life	2000 hours
Max. inlet pressure	13 bar
Working temperature	-5°C +50°C
Weight with Technopolymer threads	gr. 440
Weight with threaded inserts	gr. 460
Bowl capacity	30 cm^3
Assembly positions	Vertical
Max. fitting torque (with Technopolymer threads)	G1/2" = 22 Nm
Max. fitting torque (with threaded inserts)	G3/8" = 25 Nm G1/2" = 30 Nm

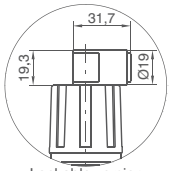
Ordering code

Ⓥ173Ⓒ DD

Ⓥ	VERSION
	N = Metal inserts
	T = Technopolymer thread
Ⓒ	CONNECTIONS
	A = G3/8" (only for "N" version)
	B = G1/2"
	C = G1/2" NPT (only for "N" version)

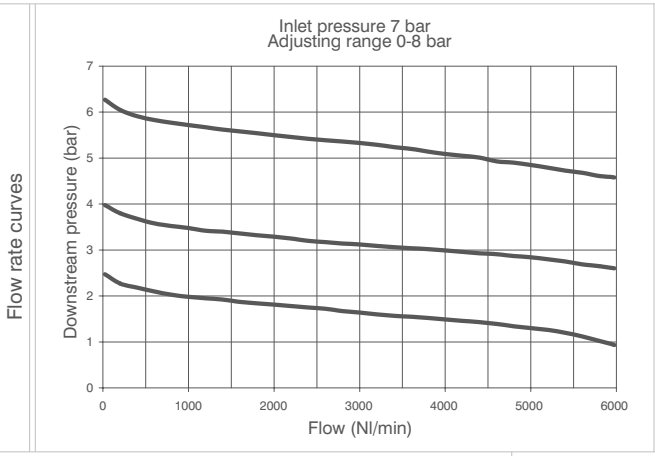
Regulator (R)

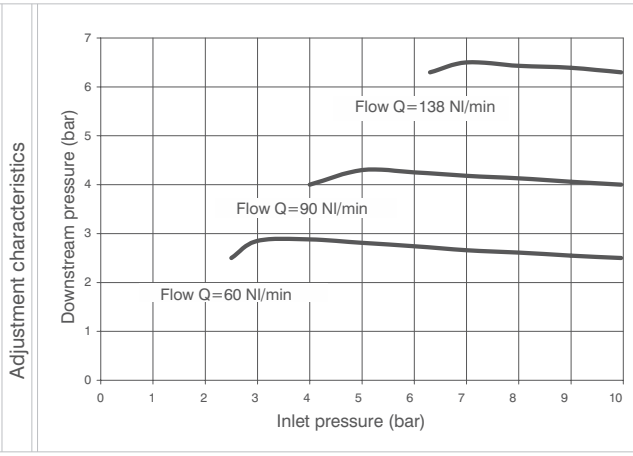




Lockable version
Detail

Example: T173BRC : size 3, Regulator with Technopolymer threads, G1/2" connections, 0 to 8 bar adjusting range





Operational characteristics

- Diaphragm pressure regulator with relieving.
- Low hysteresis rolling diaphragm.
- Balanced system.
- Available in four pressure ranges up to 12 bar.
- Operating knob can be locked in position by pressing it down once the desired P2 (regulated pressure) pressure value is achieved.
- Fitted with panel mounting locking ring.

Note

The pressure must be always regulating while increasing. For a more precise regulation and higher sensibility, the use of a regulator with a pressure range as close as possible to the regulated pressure is recommended.

Technical characteristics

Connections	G 3/8" - G 1/2"
Max. inlet pressure	13 bar
Working temperature	-5°C +50°C
Pressure gauge connections	G 1/8"
Weight with Technopolymer threads	gr. 360
Weight with threaded inserts	gr. 380
Pressure range	0-2 bar / 0-4 bar 0-8 bar / 0-12 bar
Assembly positions	Indifferent
Max. fitting torque (with Technopolymer threads)	G1/8" = 4 Nm G1/2" = 22 Nm
Max. fitting torque (with threaded inserts)	G3/8" = 25 Nm G1/2" = 30 Nm

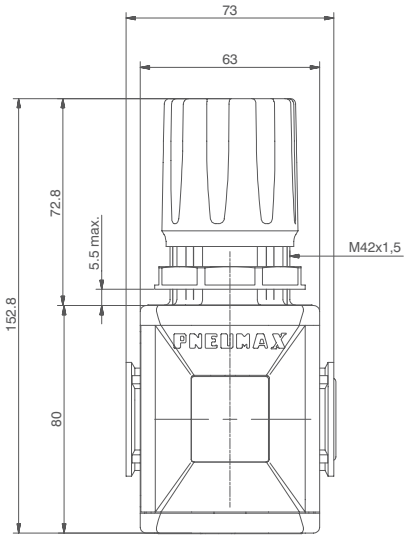
Ordering code

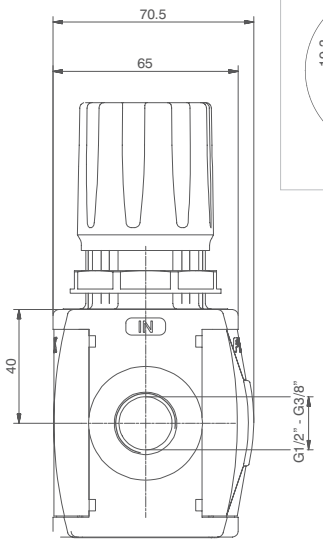
V173CRGTO

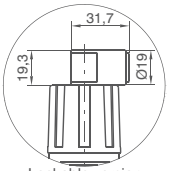
V	VERSION
	N = Metal inserts
	T = Technopolymer thread
C	CONNECTIONS
	A = G3/8"(only for "N" version)
	B = G1/2"
	C = G1/2" NPT(only for "N" version)
G	ADJUSTING RANGE
	A = 0-2 bar
	B = 0-4 bar
	C = 0-8 bar
	D = 0-12 bar
T	TYPE
	= Standard *
	F = Controlled refiel + improved relieving
	L = no relieving
	R = Improved relieving
O	OPTIONS
	= Standard *
	K = Lockable version

* no additional letter required

Regulator including gauge (RM)(RW)

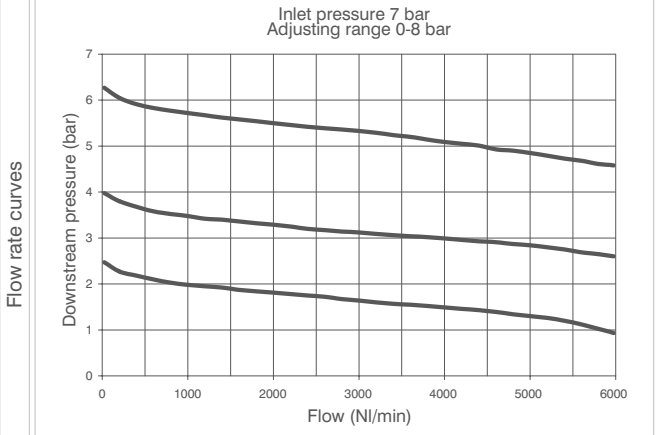


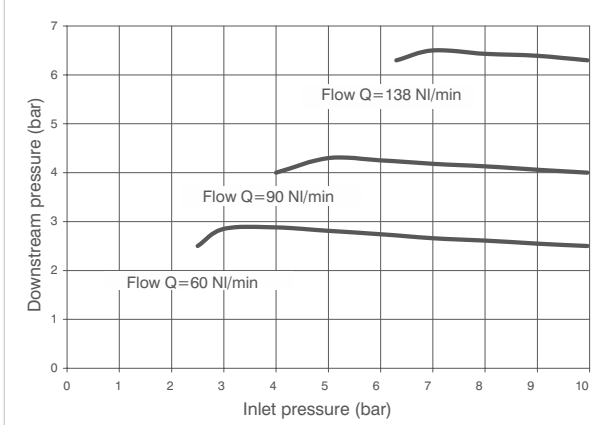




Lockable version
Detail

Example : T173BRMC : size 3, Regulator including gauge with Technopolymer threads, G1/2" connections, 0 to 8 bar adjusting range





Operational characteristics

- Diaphragm pressure regulator with relieving.
- Low hysteresis rolling diaphragm.
- Balanced system.
- Available in four pressure ranges up to 12 bar.
- Operating knob can be locked in position by pressing it down once the desired P2 (regulated pressure) pressure value is achieved.
- Fitted with panel mounting locking ring.
- Integrated manometer 0-12 bar as standard (for 0-8 and 0-12 bar range) and 0-4 bar (for 0-2 and 0-4 range)

Note

The pressure must be always regulating while increasing. For a more precise regulation and higher sensibility, the use of a regulator with a pressure range as close as possible to the regulated pressure is recommended.

Technical characteristics

Connections	G 3/8" - G 1/2"
Max. inlet pressure	13 bar
Working temperature	-5°C +50°C
Weight with Technopolymer threads	gr. 370
Weight with threaded inserts	gr. 390
Pressure range	0-2 bar / 0-4 bar 0-8 bar / 0-12 bar
Assembly positions	Indifferent
Max. fitting torque (with Technopolymer threads)	G1/2" = 22 Nm
Max. fitting torque (with threaded inserts)	G3/8" = 25 Nm G1/2" = 30 Nm

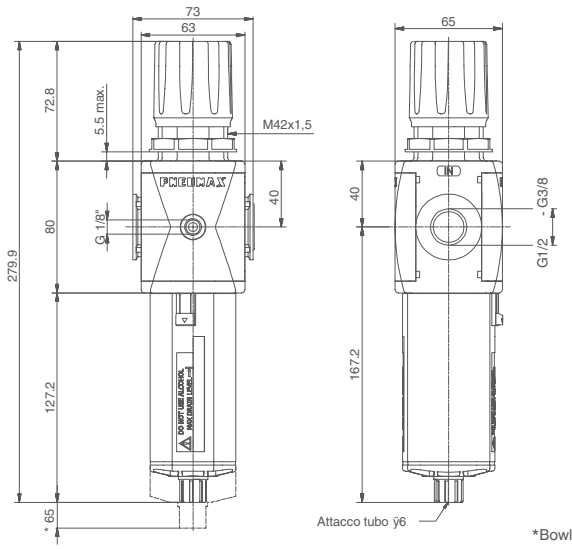
Ordering code

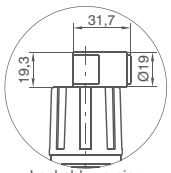
Ⓥ173ⒸRⒹⒼⓉⓄ

Ⓥ	VERSION
	N = Metal inserts
	T = Technopolymer thread
Ⓒ	CONNECTIONS
	A = G3/8" (only for "N" version)
	B = G1/2"
	C = G1/2" NPT (only for "N" version)
Ⓓ	FLOW DIRECTION
	M = from left to right
	W = from right to left
Ⓖ	ADJUSTING RANGE
	A = 0-2 bar
	B = 0-4 bar
	C = 0-8 bar
	D = 0-12 bar
Ⓣ	TYPE
	= Standard *
	F = Controlled refiel + improved relieving
	L = no relieving
	R = Improved relieving
Ⓞ	OPTIONS
	= Standard *
	K = Lockable version

* no additional letter required

Filter-Regulator (E)



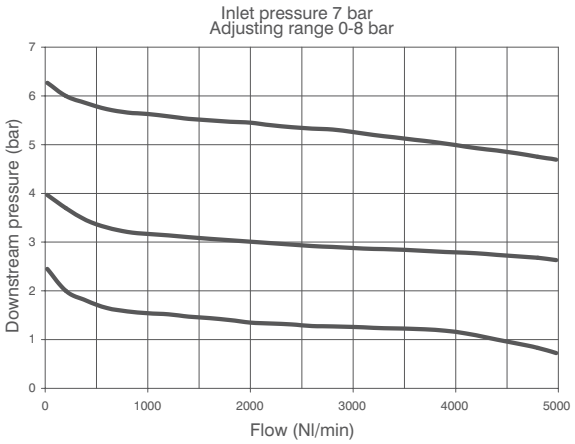


Lockable version
Detail

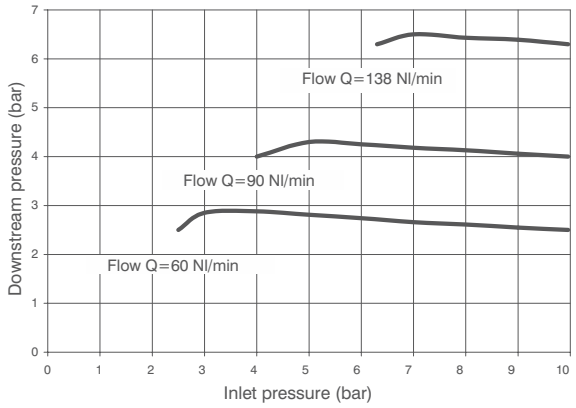
*Bowl removal maximum height

Example : T173BEBC : size 3, Filter-regulator with Technopolymer threads, G1/2" connections, 20 μm filtering pore size, 0 to 8 bar adjusting range

Flow rate curves



Adjustment characteristics



Operational characteristics

- Filter - diaphragm pressure regulator with relieving.
- Low hysteresis rolling diaphragm.
- Balanced system.
- Double filtering action: air flow centrifugation and filter element.
- Filtering element made of HDPE (high density polyethylene) available in three different filtration grades (5μm, 20μm and 50μm) can be regenerated by washing it or replaced.
- Transparent bowl made off polycarbonate with bowl protection guard.
- Bowl assembly via bayonet type quick coupling mechanism with safety button.
- Semi-automatic drain mounted as standard; automatic drain upon request.
- Available in four pressure ranges up to 12 bar.
- Operating knob can be locked in position by pressing it down once the desired P2 (regulated pressure) pressure value is achieved.
- Fitted with panel mounting locking ring.

Note

The pressure must be always regulating while increasing. For a more precise regulation and higher sensibility, the use of a regulator with a pressure range as close as possible to the regulated pressure is recommended. In order to ensure adequate flow on the auto drain version it is recommended to use minimum a 6mm fitting.

Technical characteristics

Connections	G 3/8" - G 1/2"
Max. inlet pressure	13 bar
Minimum working pressure with automatic drain	0,5 bar
Maximum working pressure with automatic drain	10 bar
Working temperature	-5°C +50°C
Pressure gauge connections	G 1/8"
Weight with Technopolymer threads	gr. 470
Weight with threaded inserts	gr. 490
Pressure range	0-2 bar / 0-4 bar 0-8 bar / 0-12 bar
Filter pore size	5 μm - 20 μm - 50 μm
Bowl capacity	68 cm^3
Assembly positions	Vertical
Max. fitting torque (with Technopolymer threads)	G1/8" = 4 Nm G1/2" = 22 Nm
Max. fitting torque (with threaded inserts)	G3/8" = 25 Nm G1/2" = 30 Nm

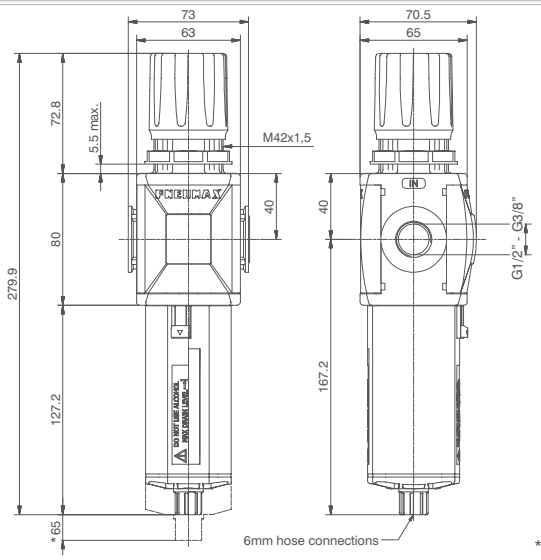
Ordering code

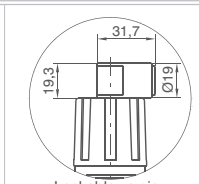
V173CESGTO

V	VERSION
	N = Metal inserts
	T = Technopolymer thread
C	CONNECTIONS
	A = G3/8" (only for "N" version)
	B = G1/2"
	C = G1/2" NPT (only for "N" version)
S	FILTER PORE SIZE
	A = 5 μm
	B = 20 μm
	C = 50 μm
G	ADJUSTING RANGE
	A = 0-2 bar
	B = 0-4 bar
	C = 0-8 bar
	D = 0-12 bar
T	TYPE
	= Standard *
	S = Automatic drain
O	OPTIONS
	= Standard *
	K = Lockable version

* no additional letter required

Filter-regulator including gauge (EM)(EW)

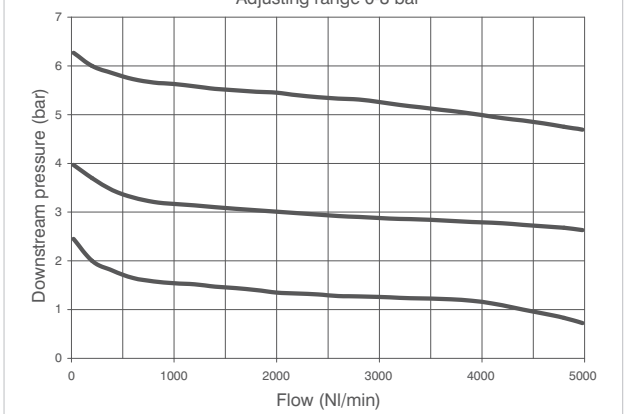




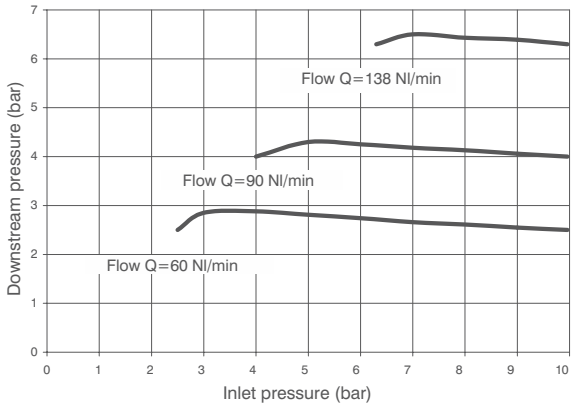
Example: T173BEMBC : size 3, Filter-Regulator including gauge with Technopolymer threads, G1/2" connections, with 20 μm filtering pore size, 0 to 8 bar adjusting range

3

Flow rate curves



Adjustment characteristics



Operational characteristics

- Filter - diaphragm pressure regulator with relieving.
- Low hysteresis rolling diaphragm.
- Balanced system.
- Double filtering action: air flow centrifugation and filter element.
- Filtering element made of HDPE (high density polyethylene) available in three different filtration grades (5μm, 20μm and 50μm) can be regenerated by washing it or replaced.
- Transparent bowl made of polycarbonate with bowl protection guard.
- Bowl assembly via bayonet type quick coupling mechanism with safety button.
- Semi-automatic drain mounted as standard; automatic drain upon request.
- Available in four pressure ranges up to 12 bar.
- Operating knob can be locked in position by pressing it down once the desired P2 (regulated pressure) pressure value is achieved.
- Fitted with panel mounting locking ring.
- Integrated manometer 0-12 bar as standard (for 0-8 and 0-12 bar range) and 0-4 bar (for 0-2 and 0-4 range)

Note

The pressure must be always regulating while increasing. For a more precise regulation and higher sensibility, the use of a regulator with a pressure range as close as possible to the regulated pressure is recommended. In order to ensure adequate flow on the auto drain version it is recommended to use minimum a 6mm fitting.

Technical characteristics

Connections	G 3/8" - G 1/2"
Max. inlet pressure	13 bar
Minimum working pressure with automatic drain	0,5 bar
Maximum working pressure with automatic drain	10 bar
Working temperature	-5°C +50°C
Weight with Technopolymer threads	gr. 480
Weight with threaded inserts	gr. 500
Pressure range	0-2 bar / 0-4 bar 0-8 bar / 0-12 bar
Filter pore size	5 μm - 20 μm - 50 μm
Bowl capacity	68 cm^3
Assembly positions	Vertical
Max. fitting torque (with Technopolymer threads)	G1/2" = 22 Nm
Max. fitting torque (with threaded inserts)	G3/8" = 25 Nm G1/2" = 30 Nm

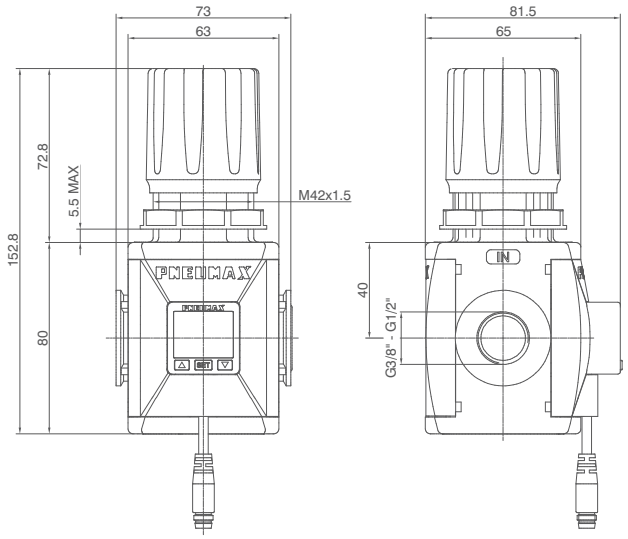
Ordering code

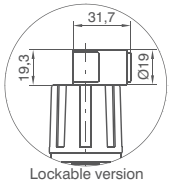
V173CEDSGTO

V	VERSION
	N = Metal inserts
	T = Technopolymer thread
C	CONNECTIONS
	A = G3/8" (only for "N" version)
	B = G1/2"
	C = G1/2" NPT (only for "N" version)
D	FLOW DIRECTION
	M = from left to right
	W = from right to left
S	FILTER PORE SIZE
	A = 5 μm
	B = 20 μm
	C = 50 μm
G	ADJUSTING RANGE
	A = 0-2 bar
	B = 0-4 bar
	C = 0-8 bar
	D = 0-12 bar
T	TYPE
	= Standard *
	S = Automatic drain
O	OPTIONS
	= Standard *
	K = Lockable version

* no additional letter required

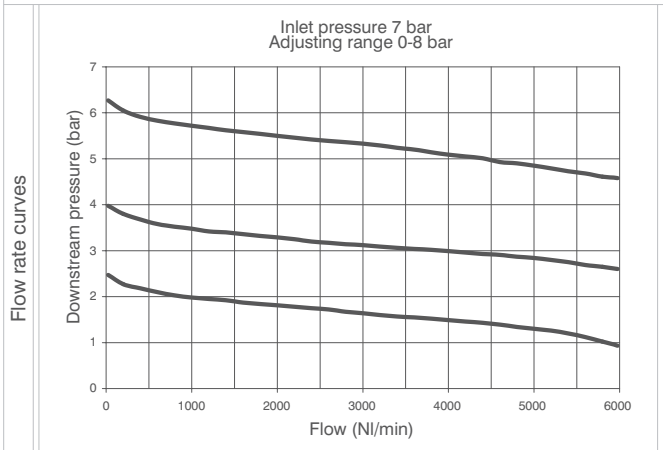
Regulator with pressure switch (RP)(RZ)

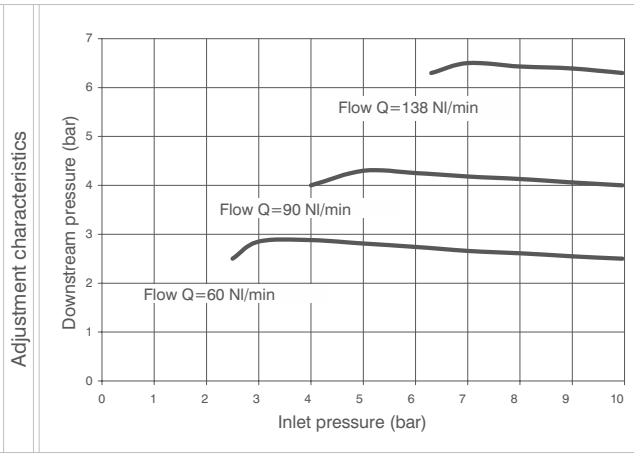




Lockable version
Detail

Example : T173BRPCA : size 3, Regulator with Technopolymer threads, G1/2" connections, 0 to 8 bar adjusting range, with pressure switch with M8 connector PNP





Operational characteristics

- Diaphragm pressure regulator with relieving.
- Low hysteresis rolling diaphragm.
- Balanced system.
- Available in four pressure ranges up to 12 bar.
- Operating knob can be locked in position by pressing it down once the desired P2 (regulated pressure) pressure value is achieved.
- Fitted with panel mounting locking ring.
- Pressure switch as standard

Note

The pressure must be always regulating while increasing. For a more precise regulation and higher sensibility, the use of a regulator with a pressure range as close as possible to the regulated pressure is recommended.

Technical characteristics

Connections	G 3/8" - G 1/2"
Max. inlet pressure	13 bar
Working temperature	0°C ÷ +50°C
Weight with Technopolymer threads	gr. 370
Weight with threaded inserts	gr. 390
Pressure range	0-2 bar / 0-4 bar 0-8 bar / 0-12 bar
Assembly positions	Indifferent
Max. fitting torque (with Technopolymer threads)	G1/2" = 22 Nm
Max. fitting torque (with threaded inserts)	G3/8" = 25 Nm G1/2" = 30 Nm

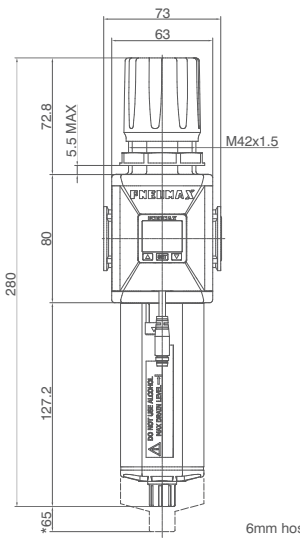
Ordering code

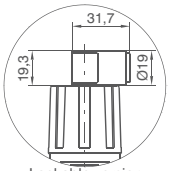
V173CRDCTOP

V	VERSION
	N = Metal inserts
	T = Technopolymer thread
C	CONNECTIONS
	A = G3/8"(only for "N" version)
	B = G1/2"
	C = G1/2" NPT(only for "N" version)
D	FLOW DIRECTION
	P = from left to right
	Z = from right to left
G	ADJUSTING RANGE
	A = 0-2 bar
	B = 0-4 bar
	C = 0-8 bar
	D = 0-12 bar
T	TYPE
	= Standard *
	F = Controlled refiel + improved relieving
	L = no relieving
	R = Improved relieving
O	OPTIONS
	= Standard *
	K = Lockable version
P	PRESSURE SWITCH OPTION
	A = Cable 150 mm+M8 PNP
	B = Cable 150 mm+M8 NPN
	C = Cable 2 mt. PNP
	D = Cable 2 mt. NPN

* no additional letter required

Filter regulator with pressure switch (EP)(EZ)





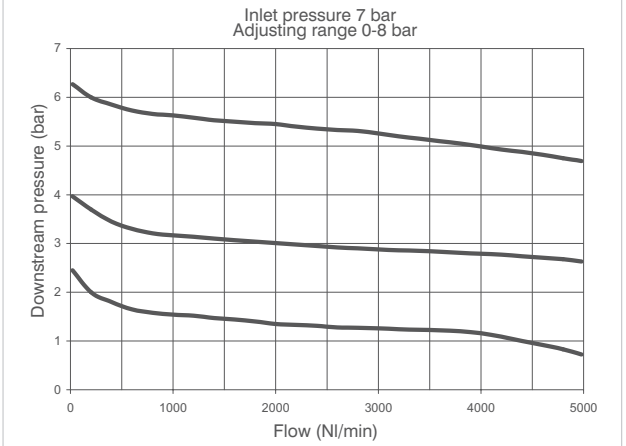
Lockable version
Detail

* Bowl removal maximum height

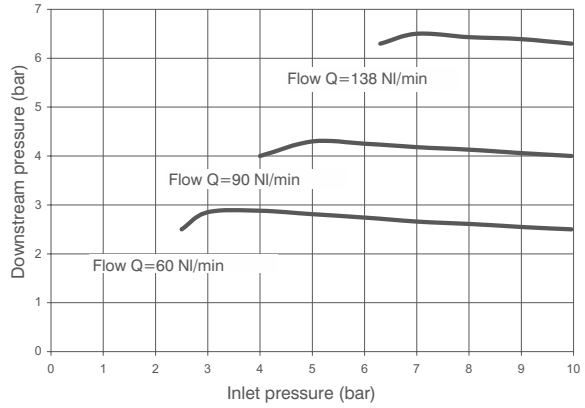
Example: T173BEPBCA : size 3, Filter-regulator with Technopolymer threads, G1/2" connections, 20 μm filtering pore size, 0 to 8 bar adjusting range, with pressure switch with M8 connector PNP

3

Flow rate curves



Adjustment characteristics



Operational characteristics

- Filter - diaphragm pressure regulator with relieving.
- Low hysteresis rolling diaphragm.
- Balanced system.
- Double filtering action: air flow centrifugation and filter element.
- Filtering element made of HDPE (high density polyethylene) available in three different filtration grades (5μm, 20μm and 50μm) can be regenerated by washing it or replaced.
- Transparent bowl made off polycarbonate with bowl protection guard.
- Bowl assembly via bayonet type quick coupling mechanism with safety button.
- Semi-automatic drain mounted as standard; automatic drain upon request
- Available in four pressure ranges up to 12 bar.
- Operating knob can be locked in position by pressing it down once the desired P2 (regulated pressure) pressure value is achieved.
- Fitted with panel mounting locking ring.
- Pressure switch as standard

Note

The pressure must be always regulating while increasing. For a more precise regulation and higher sensibility, the use of a regulator with a pressure range as close as possible to the regulated pressure is recommended. In order to ensure adequate flow on the auto drain version it is recommended to use minimum a 6mm fitting.

Technical characteristics

Connections	G 3/8" - G 1/2"
Max. inlet pressure	13 bar
Minimum working pressure with automatic drain	0,5 bar
Maximum working pressure with automatic drain	10 bar
Working temperature	0°C ÷ +50°C
Weight with Technopolymer threads	gr. 480
Weight with threaded inserts	gr. 500
Pressure range	0-2 bar / 0-4 bar 0-8 bar / 0-12 bar
Filter pore size	5 μm - 20 μm - 50 μm
Bowl capacity	68 cm^3
Assembly positions	Vertical
Max. fitting torque (with Technopolymer threads)	G1/2" = 22 Nm
Max. fitting torque (with threaded inserts)	G3/8" = 25 Nm G1/2" = 30 Nm

Ordering code

V173CEDSGTOP

V	VERSION
	N = Metal inserts
	T = Technopolymer thread
C	CONNECTIONS
	A = G3/8" (only for "N" version)
	B = G1/2"
	C = G1/2" NPT (only for "N" version)
D	FLOW DIRECTION
	P = from left to right
	Z = from right to left
S	FILTER PORE SIZE
	A = 5 μm
	B = 20 μm
	C = 50 μm
G	ADJUSTING RANGE
	A = 0-2 bar
	B = 0-4 bar
	C = 0-8 bar
	D = 0-12 bar
T	TYPE
	= Standard *
	S = Automatic drain
O	OPTIONS
	= Standard *
	K = Lockable version
P	PRESSURE SWITCH OPTION
	A = Cable 150 mm+M8 PNP
	B = Cable 150 mm+M8 NPN
	C = Cable 2 mt. PNP
	D = Cable 2 mt. NPN

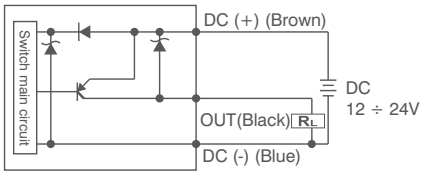
* no additional letter required

CHARACTERISTICS

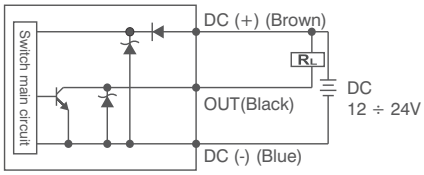
- 3 color digital LCD display, easy readout
- 4 units of measurement for pressure indication
- PNP and NPN output
- N.O. and N.C. output contact
- Not available individually, but only with a Regulator or a Filter-regulator

OUTPUT CIRCUIT WIRING DIAGRAMS

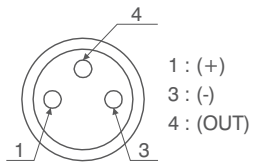
PNP output



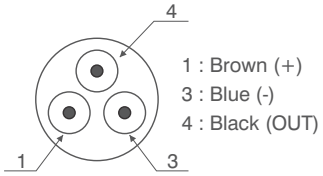
NPN output



M8 CONNECTOR PIN LAY OUT



3 WIRES CABLE LAY OUT



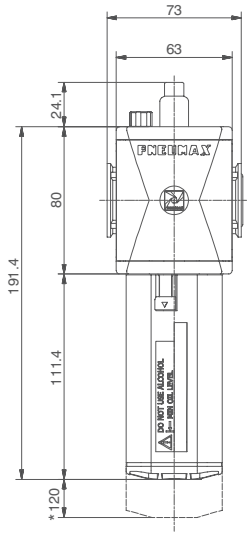
Cable ordering code

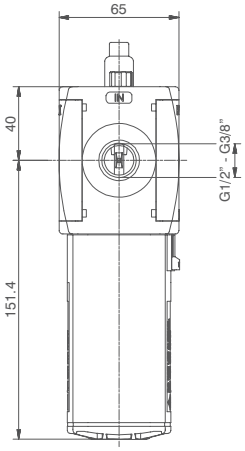
MCH1	cable 3 wires l=2,5m with M8 connector
MCH2	cable 3 wires l=5m with M8 connector
MCH3	cable 3 wires l=10m with M8 connector

Connector

TECHNICAL CHARACTERISTICS	
Adjusting range	0 ÷ 10 bar / 0 ÷ 1MPa
Max. inlet pressure	15 bar / 1,5 MPa
Fluid	Filtered and dehumidified air
Display unit of measurement	MPa - kgf/cm² - bar - psi
Supply voltage	12 ÷ 24 VDC
Current consumption	≤40mA (without load)
Digital output type	NPN - PNP
Type of contact	Normally Open - Normally Closed
Max. load current	125 mA
Digital output activation mode	single threshold with fixed hysteresis - window with fixed hysteresis - window without hysteresis
Digital output activation time	0.05s - 0.25s - 0.5s - 1s - 2s - 3s (selections for chattering-proof function)
Display characteristics	Double 3 1/2 digit display Digital output status indication Three-pushbuttons touchpad
Indicator accuracy	≤±2% F.S. ± 1 digit
Protection grade	IP 40
Temperature	0 ÷ 50 °C
Cable section	3 x 0,129mm², Ø4 mm, PVC

Lubricator (L)



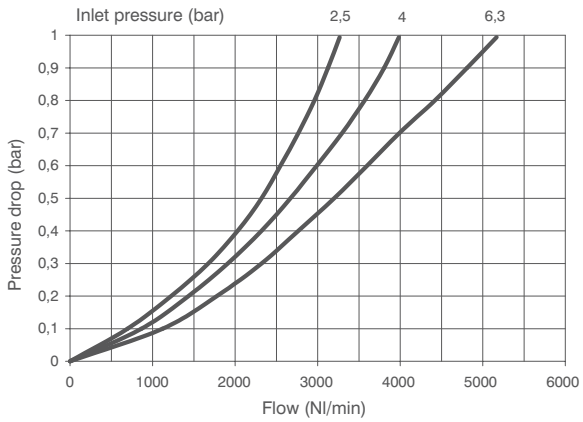


*Bowl removal maximum height

Example : T173BL : size 3, Lubricator with Technopolymer threads, G1/2" connections

3

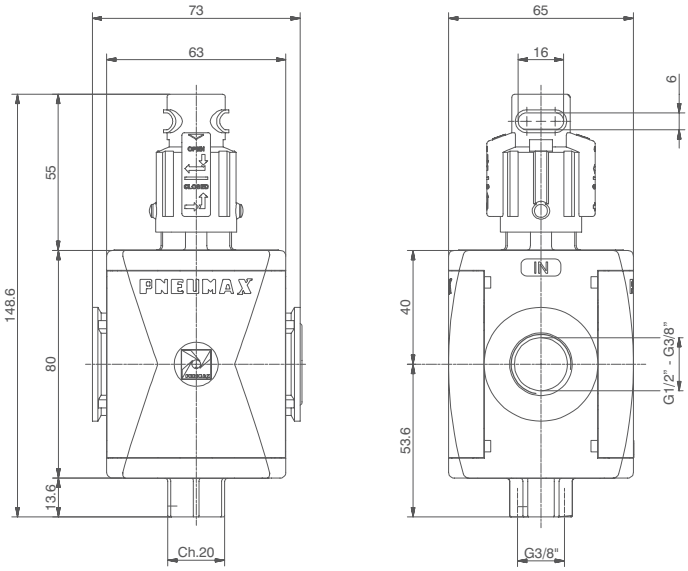
Flow rate curves



Operational characteristics	Technical characteristics		
- Oil mist lubrication with variable orifice size in function of the flow rate - Oil quantity regulation mechanism and oil quantity visualization dome made of polycarbonate. - Transparent bowl made off polycarbonate with bowl protection guard. - Bowl assembly via bayonet type quick coupling mechanism with safety button. - Oil filling plug - Oil can be refilled with pressurized circuit. - Available with electric min-level sensor N.O. or N.C. with connection for connector. - For electrical connection use connectors type C1-C2-C3 (see sensors chapter in the catalogue).	Connections	G 3/8" - G 1/2"	Ordering code
	Max. inlet pressure	13 bar	**V173CLO**
	Working temperature	-5°C +50°C	
	Weight with Technopolymer threads	gr. 290	
	Weight with threaded inserts	gr. 310	
	Indicative oil drip rate	1 drop every 300/600 Nl	
	Oil type	FD22 - HG32	
	Bowl capacity	136 cm^3	
	Assembly positions	Vertical	
	Max. fitting torque (with Technopolymer threads)	G1/2"= 22 Nm	
	Max. fitting torque (with threaded inserts)	G3/8" = 25 Nm G1/2" = 30 Nm	
Note Install as close as possible to the point o fuse Do not use alcohol, deterging oils or solvents.	Min. operational flow at 6,3 bar	100 Nl/min.	

V	VERSION N = Metal inserts T = Technopolymer thread
C	CONNECTIONS A = G3/8" (only for "N" version) B = G1/2" C = G1/2" NPT (only for "N" version)
O	OPTIONS A = Min. Oil level indicator Normally open C = Min. Oil level indicator Normally closed

Shut-off valve (VL)



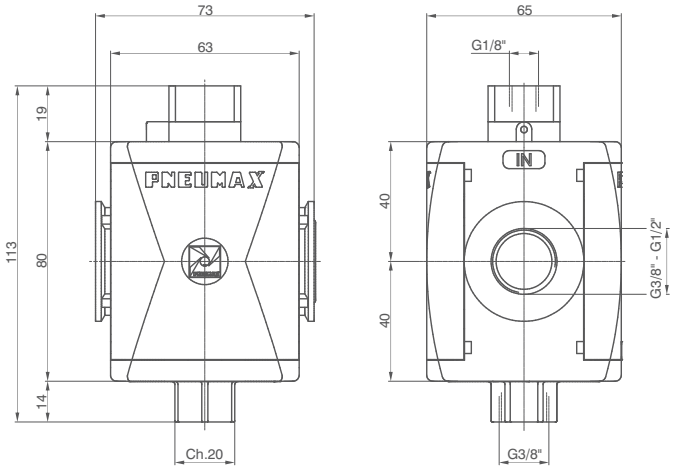
Example: T173BVL : size 3, Shut-off valve with Technopolymer threads, G1/2" connections

Operational characteristics	Technical characteristics		
- Manual operated 3 ways poppet valve. - Double handle action for valve opening: pushing and rotating (clockwise). - The valve can be closed and the down stream circuit depressurized by rotating anticlockwise the knob. - Knob lockable with three padlocks.	Connections	G 3/8" - G 1/2"	Ordering code
	Max. inlet pressure	13 bar	**Ⓥ173Ⓒ VL**
	Discharge connection	G3/8"	
	Working temperature	-5°C +50°C	
	Weight with Technopolymer threads	gr. 230	
	Weight with threaded inserts	gr. 250	
	Assembly positions	Indifferent	
	Handle opening and closing angle	90°	
	Max. fitting torque (with Technopolymer threads)	G1/2" = 22 Nm	
	Max. fitting torque (with threaded inserts)	G3/8" = 25 Nm G1/2" = 30 Nm	
	Nominal flow rate at 6 bar with Δp=1	3600 Nl/min.	
	Exhaust nominal flow rate at 6 bar with Δp=1	1500 Nl/min.	

Ⓥ	VERSION
	N = Metal inserts
	T = Technopolymer thread
Ⓒ	CONNECTIONS
	A = G3/8" (only for "N" version)
	B = G1/2"
	C = G1/2" NPT (only for "N" version)

3

Pneumatic shut-off valve (VP)



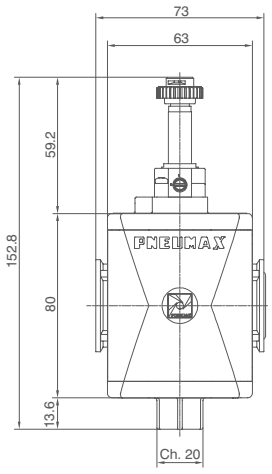
Example: T173BVP : size 3, Pneumatic shut-off valve with Technopolymer threads, G1/2" connections

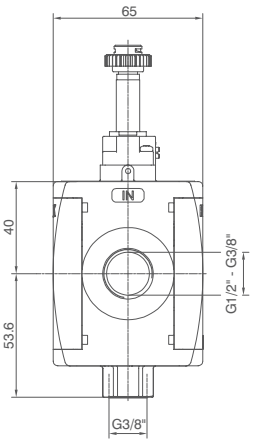
3

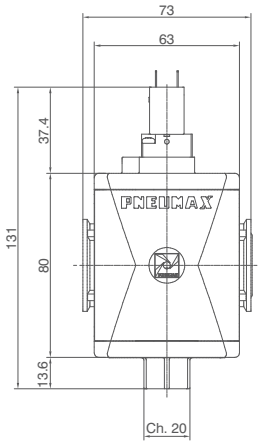
Operational characteristics	Technical characteristics		Ordering code
- Pneumatic operated 3 ways poppet valve. - When the pneumatic signal is removed the valves exhaust the pneumatic circuit	Connections	G 3/8" - G 1/2"	**Ⓥ173Ⓒ VP**
	Discharge connection	G3/8"	
	Pilot port size	G1/8"	
	Working temperature	-5°C ÷ +50°C	
	Weight with technopolymer threads	gr. 254	
	Weight with threaded inserts	gr. 270	
	Assembly positions	Indifferent	
	Min. pressure working	2,5 bar	
	Max. pressure working	10 bar	
	Max. fitting torque (with Technopolymer threads)	G1/2" = 22 Nm	
	Max. fitting torque (with threaded inserts)	G3/8" = 25 Nm G1/2" = 30 Nm	
	Nominal flow rate at 6 bar with Δp=1	3600 Nl/min.	
	Exhaust nominal flow rate at 6 bar with Δp=1	1500 Nl/min.	

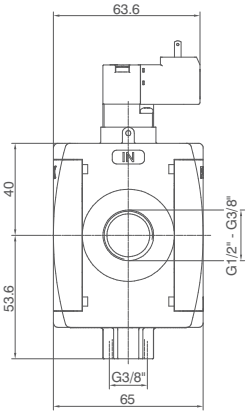
Ⓥ	VERSION
	N = Metal inserts
	T = Technopolymer thread
Ⓒ	CONNECTIONS
	A = G3/8" (only for "N" version)
	B = G1/2"
	C = G1/2" NPT (only for "N" version)

Electric shut-off valve (VE)









Example : T173BVEB2 : size 3, Electric shut-off valve, with M2 Pilot without coil, Technopolymer threads, G1/2" connections

Operational characteristics

- Solenoid operated 3 ways poppet valve.
- The model fitted with 15 mm pilots uses pilots series N33_0A and N33_0E (1 Watt)

Technical characteristics

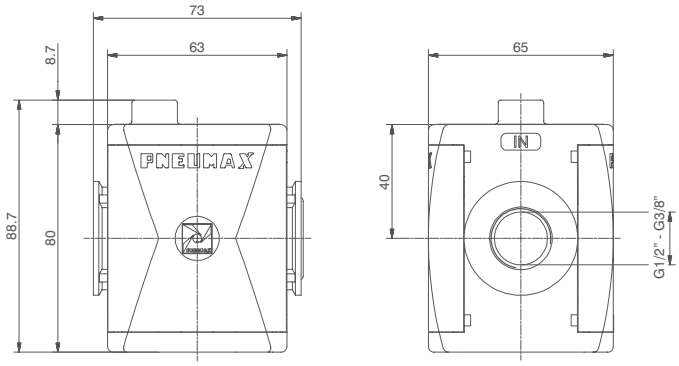
Supply and operating connections	G 3/8" - G 1/2"
Discharge connections	G 3/8"
Working temperature	-5°C ÷ +50°C
Weight with Technopolymer threads	290 g
Weight with threaded inserts	310 g
Assembly positions	Indifferent
Min. Pressure working	2,5 bar
Max. Pressure working	10 bar
Max. fitting torque (with Technopolymer threads)	G1/2" = 22 Nm
Max. fitting torque (with threaded inserts)	G3/8" = 30 Nm G1/2" = 25 Nm
Nominal flow rate at 6 bar with Δp=1	3600 Nl/min.
Exhaust nominal flow rate at 6 bar with Δp=1	1500 Nl/min.

Ordering code

Ⓥ173ⒸVEⒶ

Ⓥ	VERSION
	N = Metal inserts
	T = Technopolymer thread
Ⓒ	CONNECTIONS
	A = G3/8" (only for "N" version)
	B = G1/2"
	C = G1/2" NPT (only for "N" version)
Ⓐ	15 mm COIL VOLTAGE
	A4 = 12 V DC
	A5 = 24 V DC
	A6 = 24 V AC (50-60 Hz)
	A7 = 110 V AC (50-60 Hz)
	A8 = 220 V AC (50-60 Hz)
	A9 = 24 V DC (1 Watt)
	22 mm COIL VOLTAGE
	B2 = Without coil M2 mechanic
	B4 = 12 V DC
	B5 = 24 V DC
	B6 = 24 V AC (50-60 Hz)
	B7 = 110 V AC (50-60 Hz)
	B8 = 220 V AC (50-60 Hz)
	B9 = 24 V DC (2 Watt)
	30 mm COIL VOLTAGE
	C5 = 24 V DC
	C6 = 24 V AC (50-60 Hz)
	C7 = 110 V AC (50-60 Hz)
	C8 = 230 V AC (50-60 Hz)
	C9 = 24 V DC (2 Watt)

Progressive start-up valve (AP)

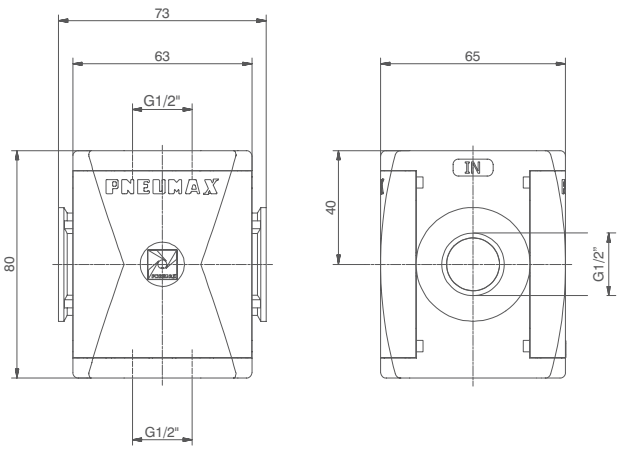


Example : T173BAP : size 3, Progressive start-up valve with Technopolymer threads, G1/2" connections

Operational characteristics	Technical characteristics		
- Down stream circuit filling time regulated via a built in flow regulator. - Full pressure is allowed once the down stream circuit pressure reaches 50% of the inlet pressure.	Connections	G 3/8" - G 1/2"	Ordering code
	Max. inlet pressure	13 bar	**V173C AP**
	Working temperature	-5°C ÷ +50°C	
	Weight with Technopolymer threads	gr. 220	
	Weight with threaded inserts	gr. 240	
	Max. fitting torque (with Technopolymer threads)	G1/2" = 22 Nm	
	Max. fitting torque (with threaded inserts)	G3/8" = 25 Nm G1/2" = 30 Nm	
	Assembly positions	Indifferent	
	Min. pressure working	2,5 bar	
	Nominal flow rate at 6 bar with Δp=1	3600 Nl/min.	
	Fully open built in flow regulator flow rate	200 Nl/min.	

V	VERSION N = Metal inserts T = Technopolymer thread
C	CONNECTIONS A = G3/8" (only for "N" version) B = G1/2" C = G1/2" NPT (only for "N" version)

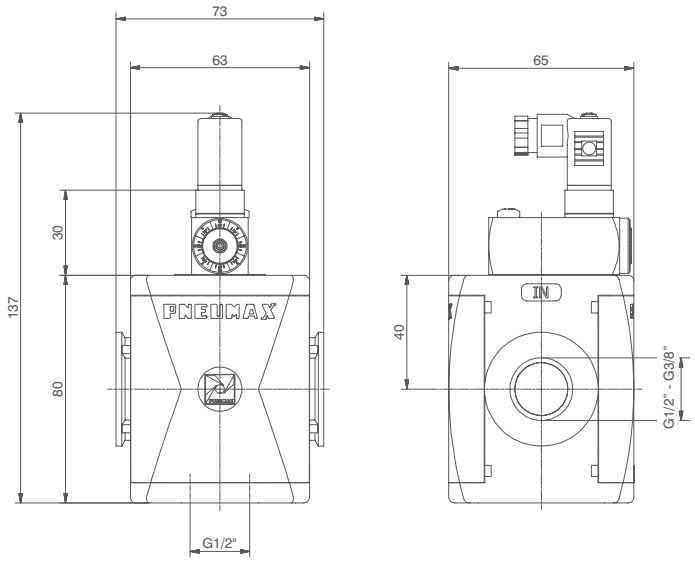
Air intake (PA)



Example : T173BPA : size 3, Air intake with Technopolymer threads, G1/2" connections

Operational characteristics	Technical characteristics		
- Available with two G1/2" threaded connections. **Attenction** For this product are available only Technopolymer connections	Connections	G 1/2"	Ordering code
	Max. inlet pressure	13 bar	**T173BPA**
	Working temperature	-5°C ÷ +50°C	
	Weight	gr. 151	
	Assembly positions	Indifferent	
	Max. fitting torque (with Technopolymer threads)	G1/2" = 22 Nm	

Pressure switch (PP)

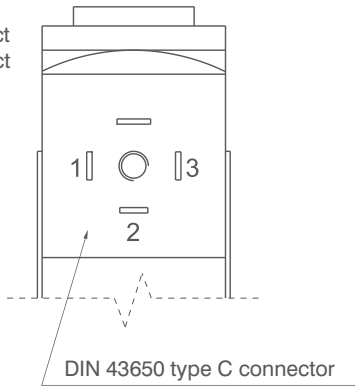


Example: T173BPP : Size 3, Pressure switch with Technopolymer threads, G1/2" connections

Operational characteristics	Technical characteristics		
- Built in adjustable pressure switch (2 to 10 bar) with electrical connection. - G 1/2" threaded connection on the bottom face. - The electrical connection is made by mean of a 15 mm connector DIN 43650 type C. The microswitch contact could be normally closed or open (change overswitch). **Attenction** For this product are available only Technopolymer connections	Connections	G 1/2"	Ordering code
	Max. inlet pressure	13 bar	
	Working temperature	-5°C +50°C	**T173BPP**
	Weight	gr. 235	
	Microswitch capacity	1A	
	Grade of protection (with connector assembled)	IP 65	
	Adjusting range	2-10 bar	
	Assembly positions	Indifferent	
	Max. fitting torque (with Technopolymer threads)	G1/2" = 22 Nm	
	Microswitch maximum tension	250 VAC	

Connection

1 = neutral
2 = N.C. contact
3 = N.O. contact

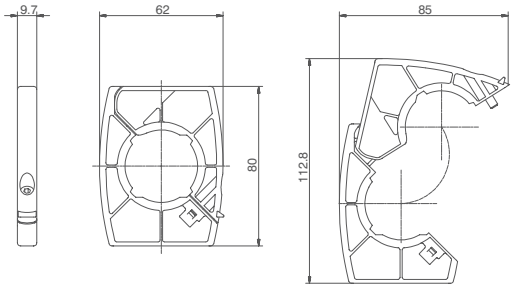


3

Flange X

Ordering code

T173X

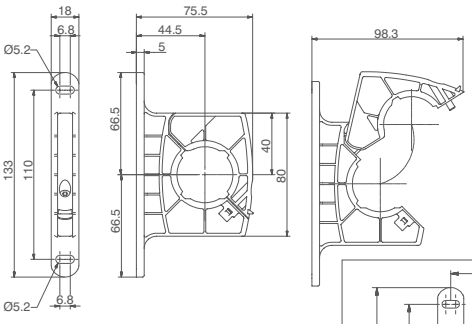


Weight 35 gr.
Example : T173X : Size 3 coupling flange
- Enables the quick connnection of two functions.

Flange Y

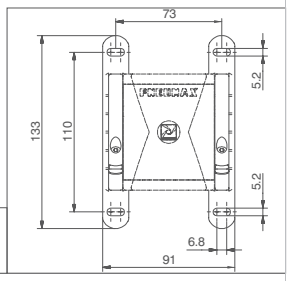
Ordering code

T173Y



Weight 48 gr.
Example : T173Y : Size 3 coupling flange with mounting holes
- Used to couple together two elements and to panel mount them.
- Used to panel mount one single element.

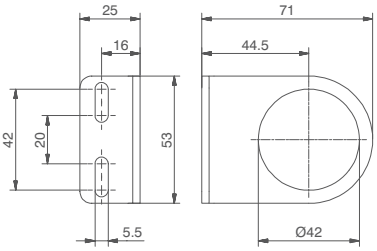
Single unit panel mounting dimensions



Fixing bracket

Ordering code

T17250



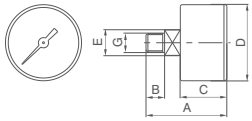
Weight 71 gr.
- Allows for regulators and filter regulators to be panel mounted.

Pressure gauge

Ordering code

17070Ⓥ.Ⓢ

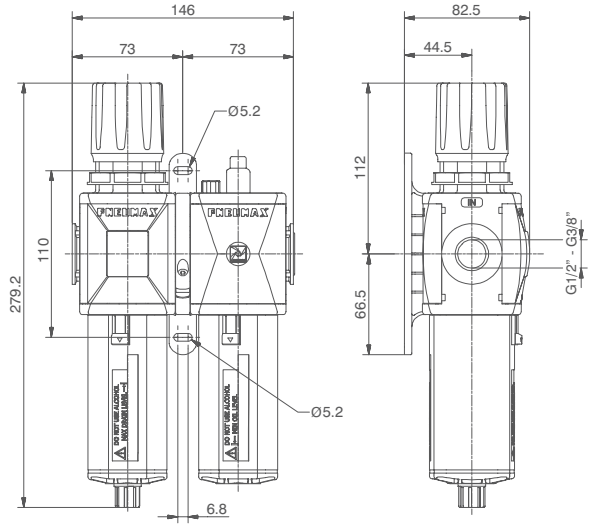
Ⓥ	VERSION
	A = Dial Ø40
	B = Dial Ø50
Ⓢ	SCALE
	A = Scale 0-4 bar
	B = Scale 0-6 bar
	C = Scale 0-12 bar



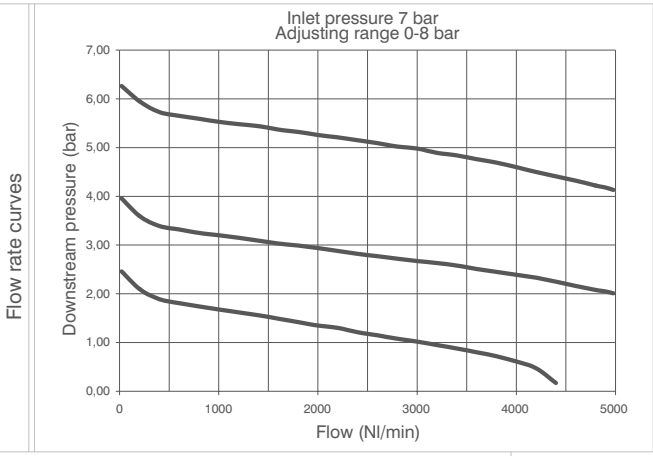
DIMENSIONS

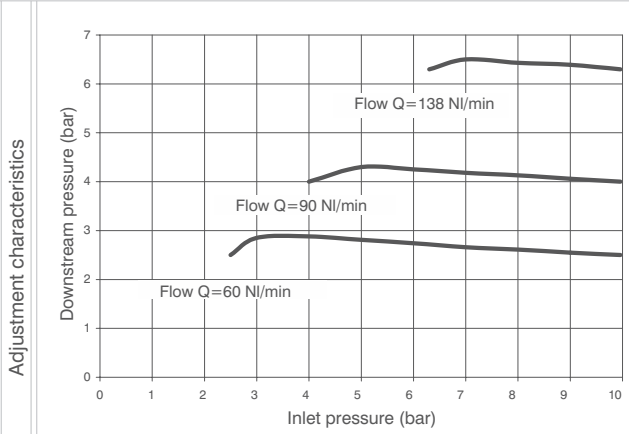
CODE	A	B	C	D	E	G	Weight gr.
17070A	44	10	26	41	14	1/8"	60
17070B	45	10	27	49	14	1/8"	80

Service unit assembled (EM+L) (E+L) (EW+L)



Example : GT173BHG : size 3, combined group comprising Filter-regulator and Lubricator, Technopolymer threads, G1/2" connections, 0 to 8 bar adjusting range and 20 μm filter pore size





Operational characteristics

Combined group comprising Filter-regulator with built in manometer and Lubricator assembled with a (Y) type coupling kit for panel mounting.
Integrated manometer 0-12 bar as standard (for 0-8 and 0-12 bar range) and 0-4 bar (for 0-2 and 0-4 range)

Note

The pressure must be always regulating while increasing. For a more precise regulation and higher sensibility, the use of a regulator with a pressure range as close as possible to the regulated pressure is recommended.

* no additional letter required

Technical characteristics

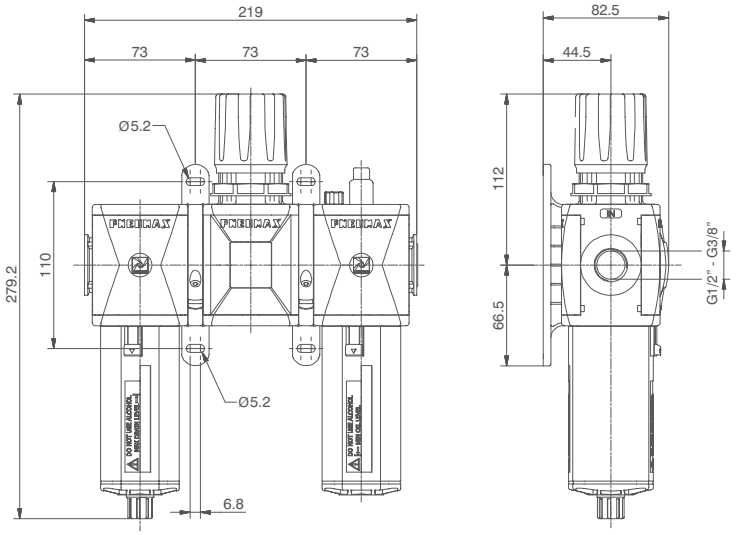
Connections	G 3/8" - G 1/2"
Max. inlet pressure	13 bar
Working temperature	-5°C +50°C
Weight with Technopolymer threads	gr. 809
Weight with threaded inserts	gr. 849
Pressure range	0-2 bar / 0-4 bar 0-8 bar / 0-12 bar
Filter pore size	5 μm - 20 μm - 50 μm
Bowl capacity	68 cm^3
Indicative oil drip rate	1 drop every 300/600 Nl
Oil type	FD22 - HG32
Bowl capacity	136 cm^3
Assembly positions	Vertical
Max. fitting torque (with Technopolymer threads)	G1/2" = 22 Nm
Max. fitting torque (with threaded inserts)	G3/8" = 25 Nm G1/2" = 30 Nm
Min. operational flow at 6,3 bar	100 Nl/min.

Ordering code

GⓋ173ⒸⓉⓈⓄⒹ

Ⓥ	VERSION
	N = Metal inserts
	T = Technopolymer thread
Ⓒ	CONNECTIONS
	A = G3/8"(only for "N" version)
	B = G1/2"
	C = G1/2" NPT(only for "N" version)
Ⓣ	TYPE
	H = Built in gauge
	J = G1/8" gauge connection
Ⓢ	FILTER PORE SIZE ADJUSTING RANGE
	C = 5 μm / 0-8 bar
	D = 5 μm / 0-12 bar
	G = 20 μm / 0-8 bar
	H = 20 μm / 0-12 bar
	N = 50 μm / 0-8 bar
	P = 50 μm / 0-12 bar
Ⓞ	OPTIONS
	= Standard *
	A = Min.oil level indicator NO
	C = Min.oil level indicator NC
	S = Automatic drain
	SA = Automatic drain + Min.oil level indicator NO
	SC = Automatic drain + Min.oil level indicator NC
Ⓓ	FLOW DIRECTION
	= Standard (from left to right)
	W = from right to left

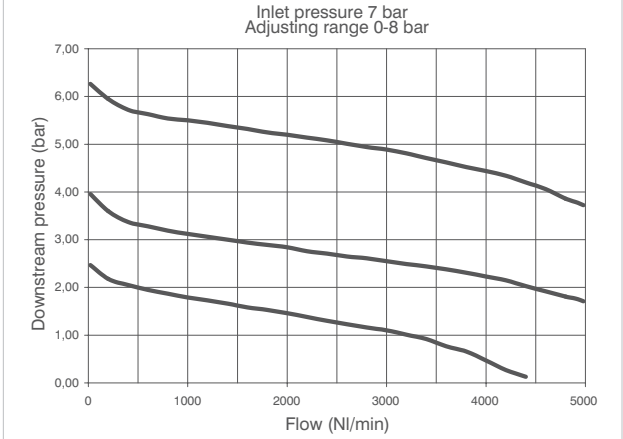
Service unit assembled (F+RM+L) (F+R+L) (F+RW+L)



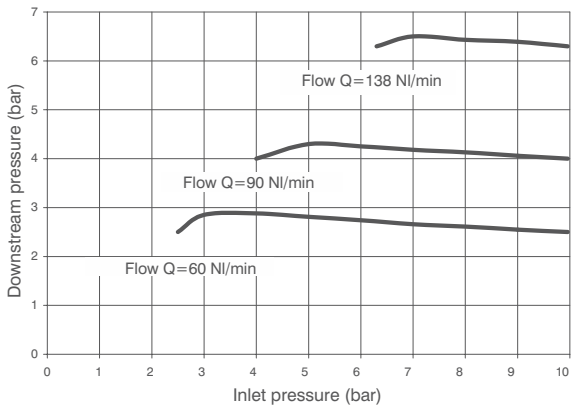
Example : GT173BKG : size 3 combined group comprising Filter, Regulator and Lubricator Technopolymer threads, G1/2" connections, 0 to 8 bar adjusting range and 20 μm filter pore size

3

Flow rate curves



Adjustment characteristics



Operational characteristics

Combined group comprising Filter, Regulator with built in manometer and Lubricator assembled with two (Y) type coupling kits for panel mounting.
Integrated manometer 0-12 bar as standard (for 0-8 and 0-12 bar range) and 0-4 bar (for 0-2 and 0-4 range)

Note

The pressure must be always regulating while increasing. For a more precise regulation and higher sensibility, the use of a regulator with a pressure range as close as possible to the regulated pressure is recommended.

* no additional letter required

Technical characteristics

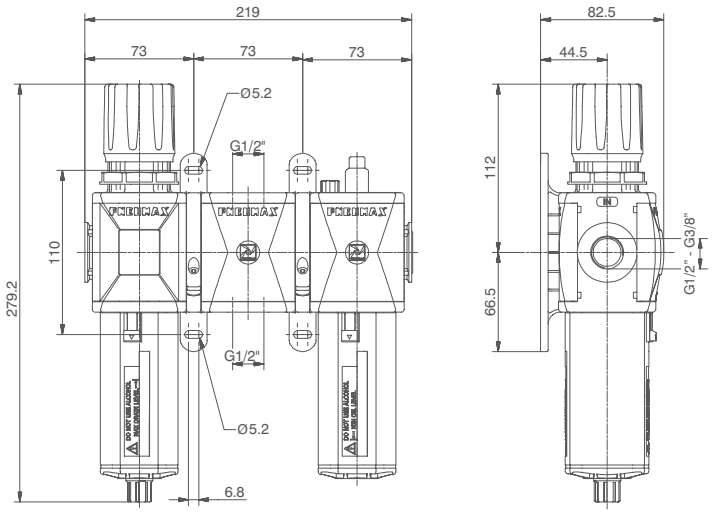
Connections	G 3/8" - G 1/2"
Max. inlet pressure	13 bar
Working temperature	-5°C +50°C
Weight with Technopolymer threads	gr. 1058
Weight with threaded inserts	gr. 1118
Pressure range	0-2 bar / 0-4 bar 0-8 bar / 0-12 bar
Filter pore size	5 μm - 20 μm - 50 μm
Bowl capacity	68 cm^3
Indicative oil drip rate	1 drop every 300/600 Nl
Oil type	FD22 - HG32
Bowl capacity	136 cm^3
Assembly positions	Vertical
Max. fitting torque (with Technopolymer threads)	G1/2" = 22 Nm
Max. fitting torque (with threaded inserts)	G3/8" = 25 Nm G1/2" = 30 Nm
Min. operational flow at 6,3 bar	100 Nl/min.

Ordering code

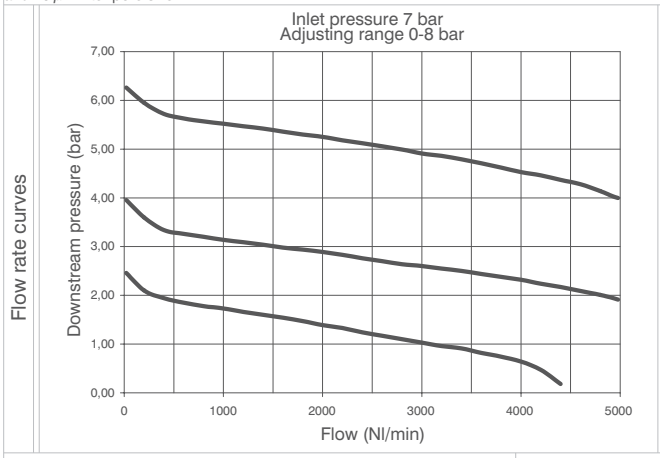
GV173CTSOD

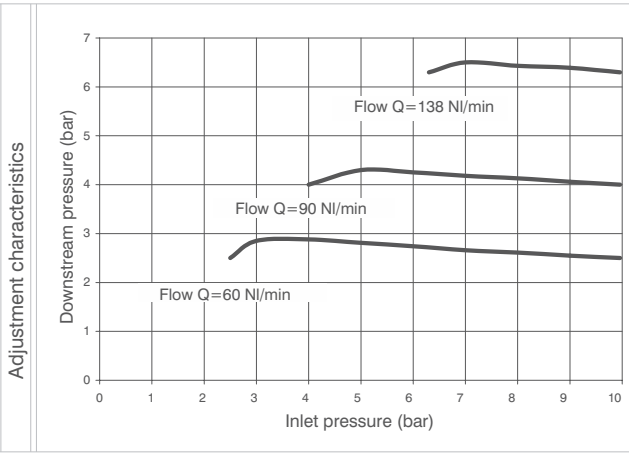
V	VERSION
	N = Metal inserts
	T = Technopolymer thread
C	CONNECTIONS
	A = G3/8" (only for "N" version)
	B = G1/2"
	C = G1/2" NPT (only for "N" version)
T	TYPE
	K = Built in gauge
	T = G1/8" gauge connection
S	FILTER PORE SIZE ADJUSTING RANGE
	C = 5 μm / 0-8 bar
	D = 5 μm / 0-12 bar
	G = 20 μm / 0-8 bar
	H = 20 μm / 0-12 bar
	N = 50 μm / 0-8 bar
	P = 50 μm / 0-12 bar
O	OPTIONS
	= Standard *
	A = Min.oil level indicator NO
	C = Min.oil level indicator NC
	S = Automatic drain
	SA = Automatic drain + Min.oil level indicator NO
	SC = Automatic drain + Min.oil level indicator NC
D	FLOW DIRECTION
	= Standard (from left to right)
	W = from right to left

Service unit assembled (EM+PA+L) (E+PA+L) (EW+PA+L)



Example : GT173BNG : size 3 combined group comprising Filter-regulator, Air intake and Lubricator Technopolymer threads, G1/2" connections, 0 to 8 bar adjusting range and 20 μm filter pore size





Operational characteristics

Combined group comprising Filter-regulator with built in manometer, Air intake and Lubricator assembled with two (Y) type coupling kits for panel mounting.
Integrated manometer 0-12 bar as standard (for 0-8 and 0-12 bar range) and 0-4 bar (for 0-2 and 0-4 range)

Note

The pressure must be always regulating while increasing. For a more precise regulation and higher sensibility, the use of a regulator with a pressure range as close as possible to the regulated pressure is recommended.

* no additional letter required

Technical characteristics

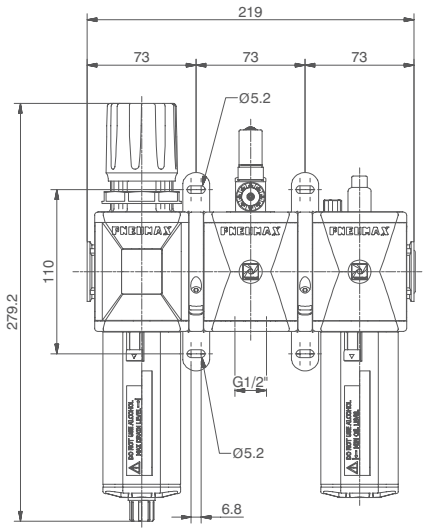
Connections	G 3/8" - G 1/2"
Max. inlet pressure	13 bar
Working temperature	-5°C +50°C
Weight with Technopolymer threads	gr. 999
Weight with threaded inserts	gr. 1039
Pressure range	0-2 bar / 0-4 bar 0-8 bar / 0-12 bar
Filter pore size	5 μm - 20 μm - 50 μm
Bowl capacity	68 cm^3
Indicative oil drip rate	1 drop every 300/600 Nl
Oil type	FD22 - HG32
Bowl capacity	136 cm^3
Assembly positions	Vertical
Max. fitting torque (with Technopolymer threads)	G1/2" = 22 Nm
Max. fitting torque (with threaded inserts)	G3/8" = 25 Nm G1/2" = 30 Nm
Min. operational flow at 6,3 bar	100 Nl/min.

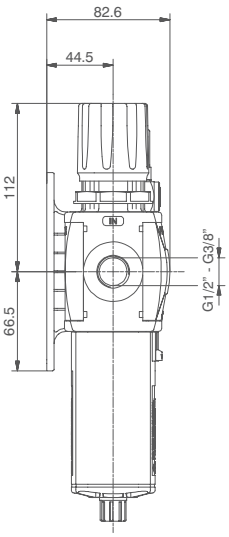
Ordering code

GⓋ173ⒸⓉⓈⓄⒹ

Ⓥ	VERSION
	N = Metal inserts
	T = Technopolymer thread
Ⓒ	CONNECTIONS
	A = G3/8"(only for "N" version)
	B = G1/2"
	C = G1/2" NPT(only for "N" version)
Ⓣ	TYPE
	N = Built in gauge
	P = G1/8" gauge connection
Ⓢ	FILTER PORE SIZE ADJUSTING RANGE
	C = 5 μm / 0-8 bar
	D = 5 μm / 0-12 bar
	G = 20 μm / 0-8 bar
	H = 20 μm / 0-12 bar
	N = 50 μm / 0-8 bar
	P = 50 μm / 0-12 bar
Ⓞ	OPTIONS
	= Standard *
	A = Min.oil level indicator NO
	C = Min.oil level indicator NC
	S = Automatic drain
	SA = Automatic drain + Min.oil level indicator NO
	SC = Automatic drain + Min.oil level indicator NC
Ⓓ	FLOW DIRECTION
	= Standard (from left to right)
	W = from right to left

Service unit assembled (EM+PP+L) (E+PP+L) (EW+PP+L)

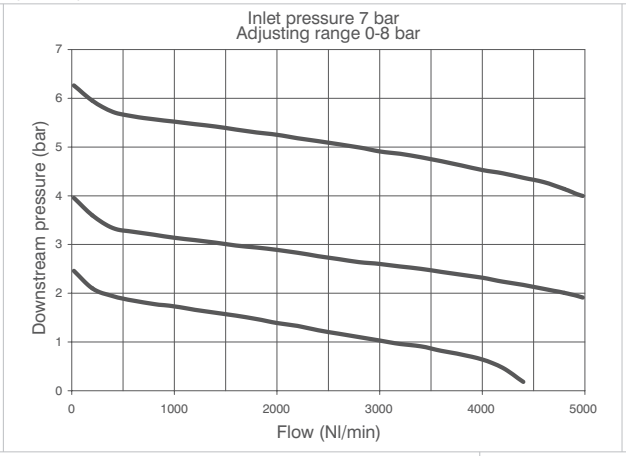




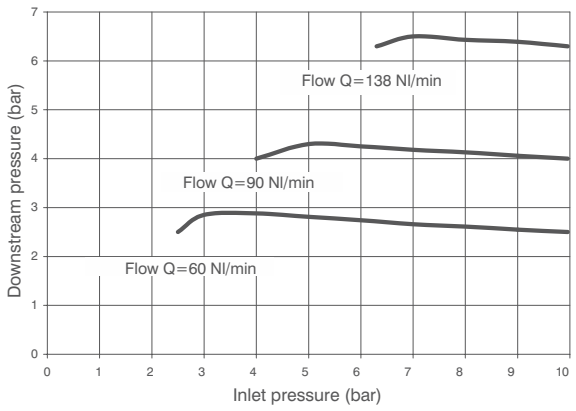
Example : GT173BRG : size 3 combined group comprising Filter-Regulator, Pressure switch and Lubricator Technopolymer threads, G1/2" connections 0 to 8 bar adjusting range and 20 μm filter pore size

3

Flow rate curves



Adjustment characteristics



Operational characteristics

Combined group comprising Filter-regulator with built in manometer, Pressure switch and Lubricator assembled with two (Y) type coupling kits for panel mountings.
Integrated manometer 0-12 bar as standard (for 0-8 and 0-12 bar range) and 0-4 bar (for 0-2 and 0-4 range)

Note

The pressure must be always regulating while increasing. For a more precise regulation and higher sensibility, the use of a regulator with a pressure range as close as possible to the regulated pressure is recommended.

* no additional letter required

Technical characteristics

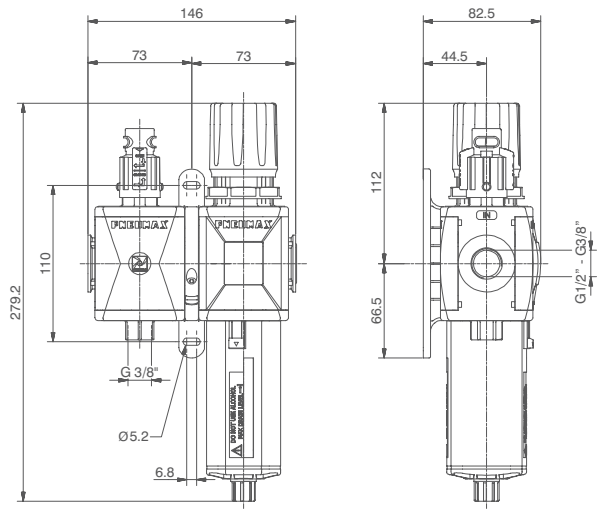
Connections	G 3/8" - G 1/2"
Max. inlet pressure	13 bar
Working temperature	-5°C +50°C
Weight with Technopolymer threads	gr. 1083
Weight with threaded inserts	gr. 1123
Pressure range	0-2 bar / 0-4 bar 0-8 bar / 0-12 bar
Filter pore size	5 μm - 20 μm - 50 μm
Bowl capacity	68 cm^3
Indicative oil drip rate	1 drop every 300/600 Nl
Oil type	FD22 - HG32
Bowl capacity	136 cm^3
Assembly positions	Vertical
Max. fitting torque (with Technopolymer threads)	G1/2" = 22 Nm
Max. fitting torque (with threaded inserts)	G3/8" = 25 Nm G1/2" = 30 Nm
Min. operational flow at 6,3 bar	100 Nl/min.

Ordering code

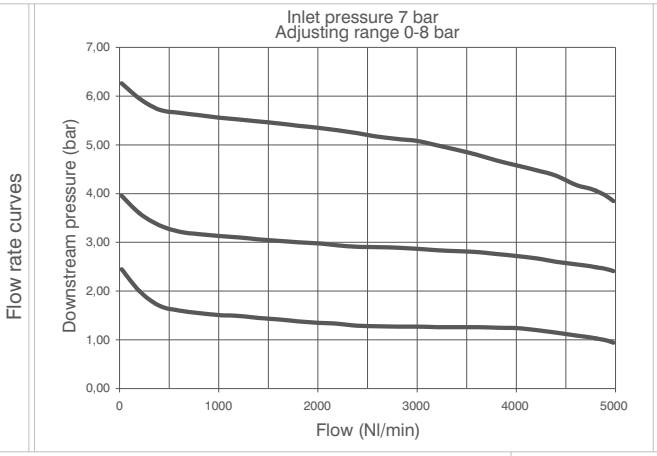
GV173CTSOD

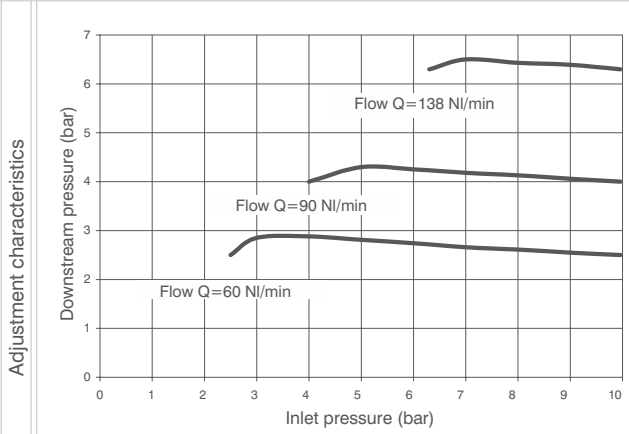
V	VERSION
	N = Metal inserts
	T = Technopolymer thread
C	CONNECTIONS
	A = G3/8" (only for "N" version)
	B = G1/2"
	C = G1/2" NPT (only for "N" version)
T	TYPE
	R = Built in gauge
	C = G1/8" gauge connection
S	FILTER PORE SIZE ADJUSTING RANGE
	C = 5 μm / 0-8 bar
	D = 5 μm / 0-12 bar
	G = 20 μm / 0-8 bar
	H = 20 μm / 0-12 bar
	N = 50 μm / 0-8 bar
	P = 50 μm / 0-12 bar
O	OPTIONS
	= Standard *
	A = Min.oil level indicator NO
	C = Min.oil level indicator NC
	S = Automatic drain
	SA = Automatic drain + Min.oil level indicator NO
	SC = Automatic drain + Min.oil level indicator NC
D	FLOW DIRECTION
	= Standard (from left to right)
	W = from right to left

Service unit assembled (VL+EM) (VL+E) (VL+EW)



Example : GT173BVGG : size 3 combined group comprising Shut-off valve, Filter-regulator Technopolymer threads, G1/2" connections 0 to 8 bar adjusting range and 20 μm filter pore size





Operational characteristics

Combined group comprising manual shut-off valve, Filter - regulator with built in manometer, assembled with one (Y) type coupling kit for panel mountings.
Integrated manometer 0-12 bar as standard (for 0-8 and 0-12 bar range) and 0-4 bar (for 0-2 and 0-4 range)

Note

The pressure must be always regulating while increasing. For a more precise regulation and higher sensibility, the use of a regulator with a pressure range as close as possible to the regulated pressure is recommended.

Technical characteristics

Connections	G 3/8" - G 1/2"
Max. inlet pressure	13 bar
Working temperature	-5°C +50°C
Weight with Technopolymer threads	gr. 749
Weight with threaded inserts	gr. 789
Pressure range	0-2 bar / 0-4 bar 0-8 bar / 0-12 bar
Filter pore size	5 μm - 20 μm - 50 μm
Bowl capacity	68 cm^3
Indicative oil drip rate	1 drop every 300/600 Nl
Oil type	FD22 - HG32
Bowl capacity	136 cm^3
Assembly positions	Vertical
Max. fitting torque (with Technopolymer threads)	G1/2" = 22 Nm
Max. fitting torque (with threaded inserts)	G3/8" = 25 Nm G1/2" = 30 Nm
Min. operational flow at 6,3 bar	100 Nl/min.

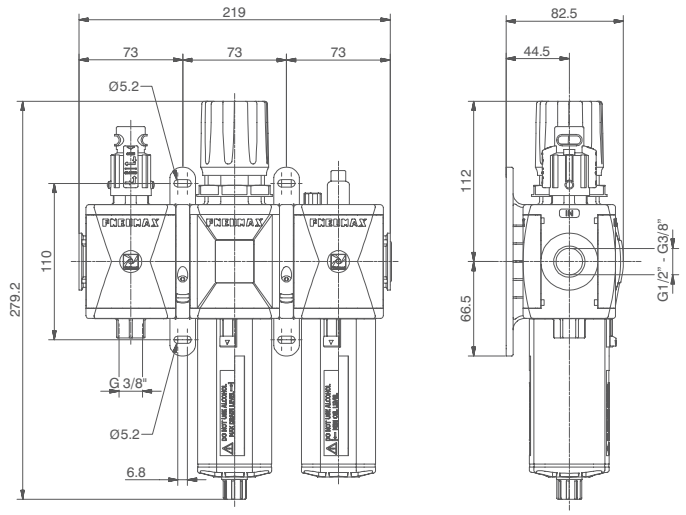
Ordering code

GⓋ173ⒸⓉⓈⓄⒹ

Ⓥ	VERSION
	N = Metal inserts
	T = Technopolymer thread
Ⓒ	CONNECTIONS
	A = G3/8"(only for "N" version)
	B = G1/2"
	C = G1/2" NPT(only for "N" version)
Ⓣ	TYPE
	VG = Built in gauge
	VU = G1/8" gauge connection
Ⓢ	FILTER PORE SIZE ADJUSTING RANGE
	C = 5 μm / 0-8 bar
	D = 5 μm / 0-12 bar
	G = 20 μm / 0-8 bar
	H = 20 μm / 0-12 bar
	N = 50 μm / 0-8 bar
	P = 50 μm / 0-12 bar
Ⓞ	OPTIONS
	= Standard *
	S = Automatic drain
Ⓓ	FLOW DIRECTION
	= Standard (from left to right)
	W = from right to left

* no additional letter required

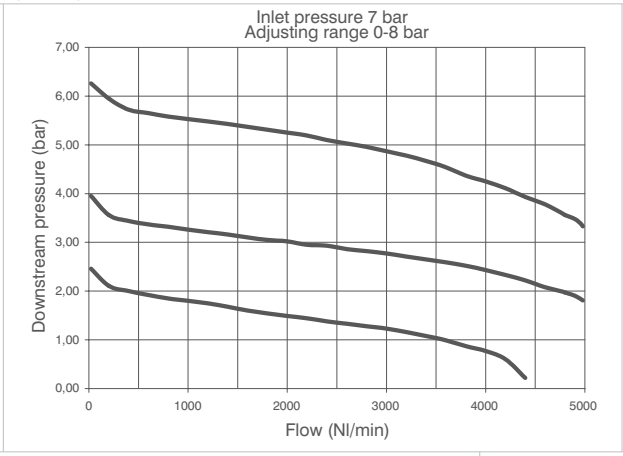
Service unit assembled (VL+EM+L) (VL+E+L) (VL+EW+L)



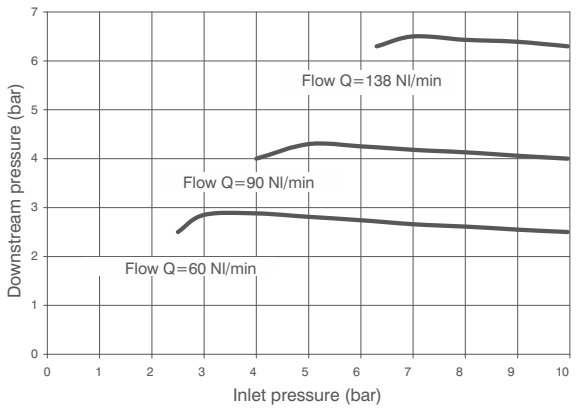
Example : GT173BVHG : Size 3 Combined group comprising Shut-off valve, Filter-regulator and Lubricator Technopolymer threads, G1/2" connections 0 to 8 bar adjusting range and 20 μm filter pore size

3

Flow rate curves



Adjustment characteristics



Operational characteristics

Combined group comprising manual shut-off valve, Filter - regulator with built in manometer and Lubricator assembled with two(Y) type coupling kits for panel mountings.
Integrated manometer 0-12 bar as standard (for 0-8 and 0-12 bar range) and 0-4 bar (for 0-2 and 0-4 range)

Note

The pressure must be always regulating while increasing. For a more precise regulation and higher sensibility, the use of a regulator with a pressure range as close as possible to the regulated pressure is recommended.

* no additional letter required

Technical characteristics

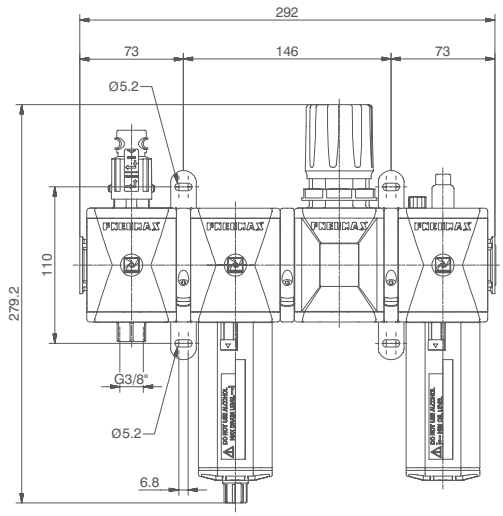
Connections	G 3/8" - G 1/2"
Max. inlet pressure	13 bar
Working temperature	-5°C +50°C
Weight with Technopolymer threads	gr. 1078
Weight with threaded inserts	gr. 1138
Pressure range	0-2 bar / 0-4 bar 0-8 bar / 0-12 bar
Filter pore size	5 μm - 20 μm - 50 μm
Bowl capacity	68 cm^3
Indicative oil drip rate	1 drop every 300/600 Nl
Oil type	FD22 - HG32
Bowl capacity	136 cm^3
Assembly positions	Vertical
Max. fitting torque (with Technopolymer threads)	G1/2" = 22 Nm
Max. fitting torque (with threaded inserts)	G3/8" = 25 Nm G1/2" = 30 Nm
Min. operational flow at 6,3 bar	100 Nl/min.

Ordering code

GV173CTSOD

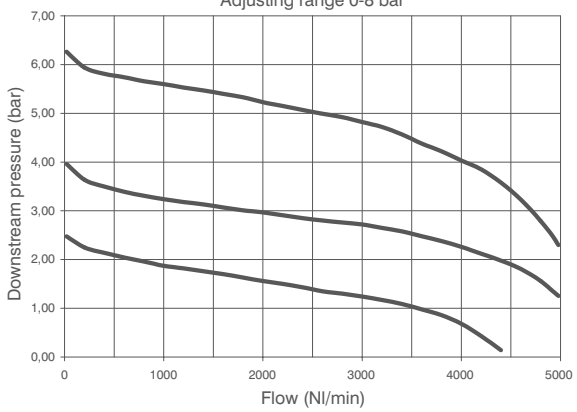
V	VERSION
	N = Metal inserts
	T = Technopolymer thread
C	CONNECTIONS
	A = G3/8"(only for "N" version)
	B = G1/2"
	C = G1/2" NPT(only for "N" version)
T	TYPE
	VH = Built in gauge
	VJ = G1/8" gauge connection
S	FILTER PORE SIZE ADJUSTING RANGE
	C = 5 μm / 0-8 bar
	D = 5 μm / 0-12 bar
	G = 20 μm / 0-8 bar
	H = 20 μm / 0-12 bar
	N = 50 μm / 0-8 bar
	P = 50 μm / 0-12 bar
O	OPTIONS
	= Standard *
	A = Min.oil level indicator NO
	C = Min.oil level indicator NC
	S = Automatic drain
	SA = Automatic drain + Min.oil level indicator NO
	SC = Automatic drain + Min.oil level indicator NC
D	FLOW DIRECTION
	= Standard (from left to right)
	W = from right to left

Service unit assembled (VL+F+RM+L) (VL+F+R+L) (VL+F+RW+L)

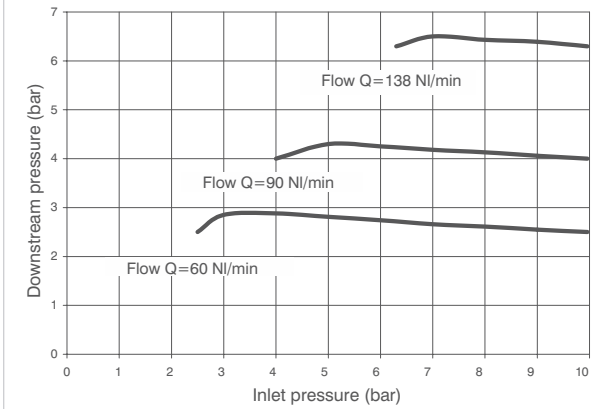


Example : GT173BVKG : size 3 combined group comprising Shut-off valve, Filter, Regulator and Lubricator Technopolymer threads, G1/2" connections 0 to 8 bar adjusting range and 20 μm filter pore size

Flow rate curves



Adjustment characteristics



Operational characteristics

Combined group comprising Manual shut-off valve, Filter, Regulator with built in manometer and Lubricator , assembled with two (Y) type coupling kits for panel mounting and one (X) type coupling kit.
Integrated manometer 0-12 bar as standard (for 0-8 and 0-12 bar range) and 0-4 bar (for 0-2 and 0-4 range)

Note

The pressure must be always regulating while increasing. For a more precise regulation and higher sensibility, the use of a regulator with a pressure range as close as possible to the regulated pressure is recommended.

* no additional letter required

Technical characteristics

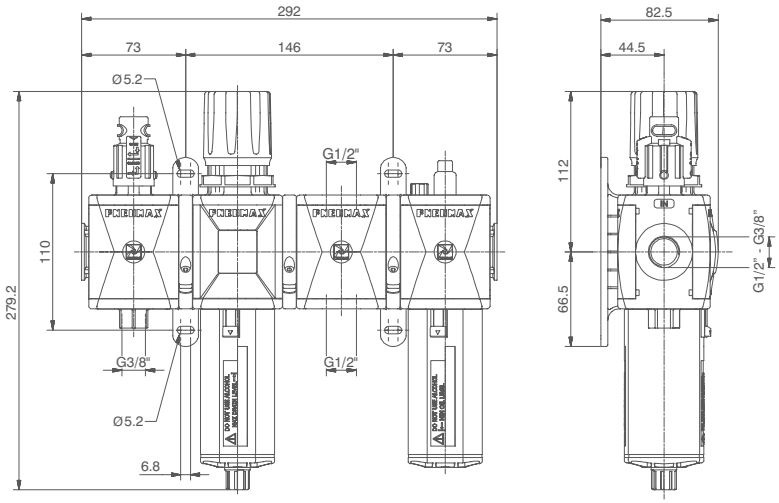
Connections	G 3/8" - G 1/2"
Max. inlet pressure	13 bar
Working temperature	-5°C +50°C
Weight with Technopolymer threads	gr. 1308
Weight with threaded inserts	gr. 1388
Pressure range	0-2 bar / 0-4 bar 0-8 bar / 0-12 bar
Filter pore size	5 μm - 20 μm - 50 μm
Bowl capacity	68 cm^3
Indicative oil drip rate	1 drop every 300/600 Nl
Oil type	FD22 - HG32
Bowl capacity	136 cm^3
Assembly positions	Vertical
Max. fitting torque (with Technopolymer threads)	G1/2" = 22 Nm
Max. fitting torque (with threaded inserts)	G3/8" = 25 Nm G1/2" = 30 Nm
Min. operational flow at 6,3 bar	100 Nl/min.

Ordering code

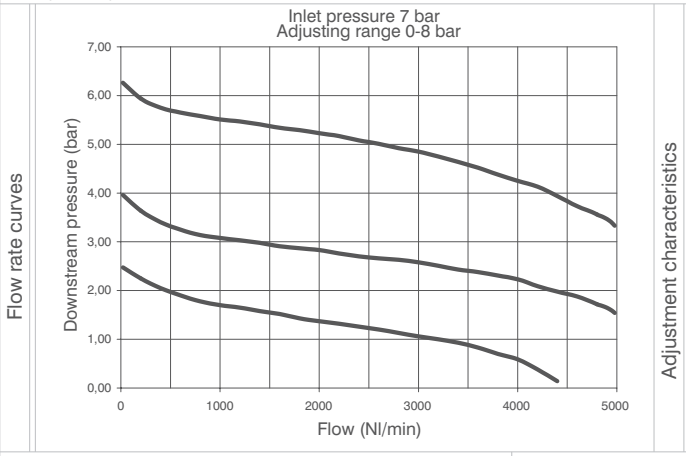
GⓋ173ⒸⓉⓈⓄⒹ

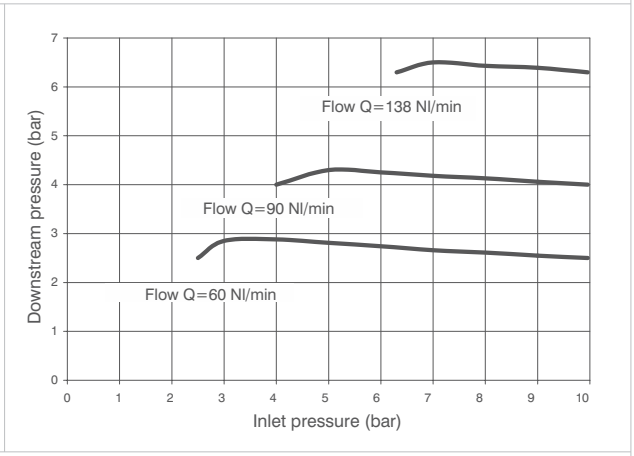
Ⓥ	VERSION
	N = Metal inserts
	T = Technopolymer thread
Ⓒ	CONNECTIONS
	A = G3/8"(only for "N" version)
	B = G1/2"
	C = G1/2" NPT(only for "N" version)
Ⓣ	TYPE
	VK = Built in gauge
	VT = G1/8" gauge connection
Ⓢ	FILTER PORE SIZE ADJUSTING RANGE
	C = 5 μm / 0-8 bar
	D = 5 μm / 0-12 bar
	G = 20 μm / 0-8 bar
	H = 20 μm / 0-12 bar
	N = 50 μm / 0-8 bar
	P = 50 μm / 0-12 bar
Ⓞ	OPTIONS
	= Standard *
	A = Min.oil level indicator NO
	C = Min.oil level indicator NC
	S = Automatic drain
	SA = Automatic drain + Min.oil level indicator NO
	SC = Automatic drain + Min.oil level indicator NC
Ⓓ	FLOW DIRECTION
	= Standard (from left to right)
	W = from right to left

Service unit assembled (VL+EM+PA+L) (VL+E+PA+L) (VL+EW+PA+L)



Example : GT173BVNG : size 3 combined group comprising Shut-off valve, Filter-regulator, Air intake and Lubricator Technopolymer threads, G1/2" connections 0 to 8 baradjusting range and 20 μm filter pore size





Operational characteristics

Combined group comprising manual shut-off valve, Filter - regulator with built in manometer, Air intake and Lubricator, assembled with two (Y) type coupling kits for panel mounting and one (X) type coupling kit.
Integrated manometer 0-12 bar as standard (for 0-8 and 0-12 bar range) and 0-4 bar (for 0-2 and 0-4 range)

Note

The pressure must be always regulating while increasing. For a more precise regulation and higher sensibility, the use of a regulator with a pressure range as close as possible to the regulated pressure is recommended.

* no additional letter required

Technical characteristics

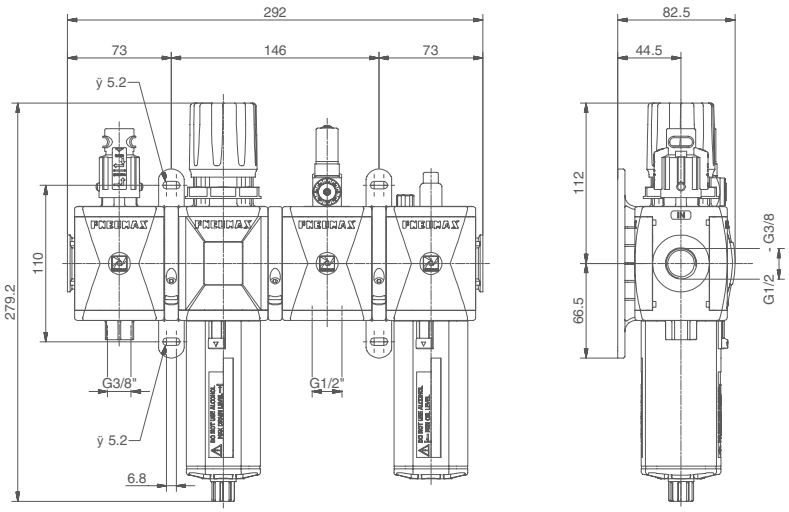
Connections	G 3/8" - G 1/2"
Max. inlet pressure	13 bar
Working temperature	-5°C +50°C
Weight with Technopolymer threads	gr. 1249
Weight with threaded inserts	gr. 1309
Pressure range	0-2 bar / 0-4 bar 0-8 bar / 0-12 bar
Filter pore size	5 μm - 20 μm - 50 μm
Bowl capacity	68 cm^3
Indicative oil drip rate	1 drop every 300/600 Nl
Oil type	FD22 - HG32
Bowl capacity	136 cm^3
Assembly positions	Vertical
Max. fitting torque (with Technopolymer threads)	G1/2" = 22 Nm
Max. fitting torque (with threaded inserts)	G3/8" = 25 Nm G1/2" = 30 Nm
Min. operational flow at 6,3 bar	100 Nl/min.

Ordering code

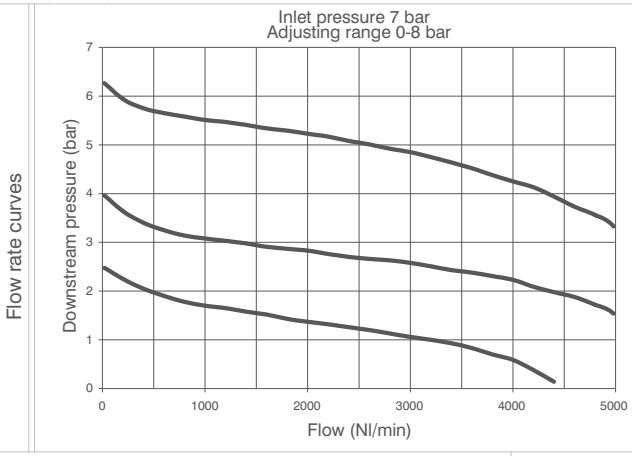
GV173CTSOD

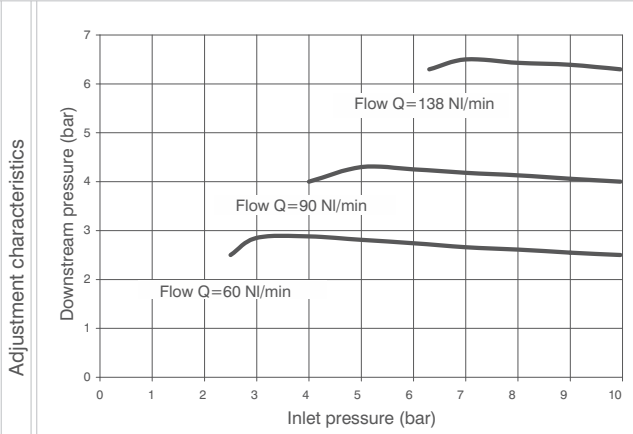
V	VERSION
	N = Metal inserts
	T = Technopolymer thread
C	CONNECTIONS
	A = G3/8" (only for "N" version)
	B = G1/2"
	C = G1/2" NPT (only for "N" version)
T	TYPE
	VN = Built in gauge
	VP = G1/8" gauge connection
S	FILTER PORE SIZE ADJUSTING RANGE
	C = 5 μm / 0-8 bar
	D = 5 μm / 0-12 bar
	G = 20 μm / 0-8 bar
	H = 20 μm / 0-12 bar
	N = 50 μm / 0-8 bar
	P = 50 μm / 0-12 bar
O	OPTIONS
	= Standard *
	A = Min.oil level indicator NO
	C = Min.oil level indicator NC
	S = Automatic drain
	SA = Automatic drain + Min.oil level indicator NO
	SC = Automatic drain + Min.oil level indicator NC
D	FLOW DIRECTION
	= Standard (from left to right)
	W = from right to left

Service unit assembled (VL+EM+PP+L) (VL+E+PP+L) (VL+EW+PP+L)



Example : GT173BVRG : size 3 combined group comprising Shut-off valve, Filter-regulator, Pressure switch and Lubricator Technopolymer threads, G1/2" connections adjusting range 0 to 8 bar and 20 μm filter pore size





Operational characteristics

Combined group comprising manual shut-off valve, Filter - regulator with built in manometer, Pressure switch and Lubricator, assembled with two (Y) type coupling kits for panel mounting and one (X) type coupling kit.
Integrated manometer 0-12 bar as standard (for 0-8 and 0-12 bar range) and 0-4 bar (for 0-2 and 0-4 range)

Note

The pressure must be always regulating while increasing. For a more precise regulation and higher sensibility, the use of a regulator with a pressure range as close as possible to the regulated pressure is recommended.

* no additional letter required

Technical characteristics

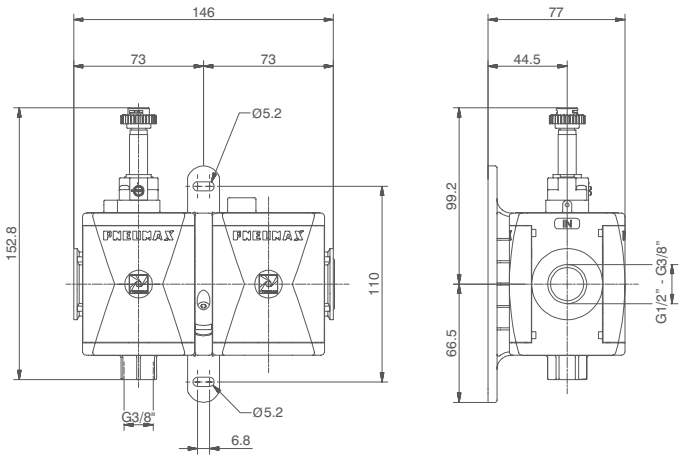
Connections	G 3/8" - G 1/2"
Max. inlet pressure	13 bar
Working temperature	-5°C +50°C
Weight with Technopolymer threads	gr. 1333
Weight with threaded inserts	gr. 1393
Pressure range	0-2 bar / 0-4 bar 0-8 bar / 0-12 bar
Filter pore size	5 μm - 20 μm - 50 μm
Bowl capacity	68 cm^3
Indicative oil drip rate	1 drop every 300/600 Nl
Oil type	FD22 - HG32
Bowl capacity	136 cm^3
Assembly positions	Vertical
Max. fitting torque (with Technopolymer threads)	G1/2" = 22 Nm
Max. fitting torque (with threaded inserts)	G3/8" = 25 Nm G1/2" = 30 Nm
Min. operational flow at 6,3 bar	100 Nl/min.

Ordering code

GⓋ173ⒸⓉⓈⓄⒹ

Ⓥ	VERSION
	N = Metal inserts
	T = Technopolymer thread
Ⓒ	CONNECTIONS
	A = G3/8"(only for "N" version)
	B = G1/2"
	C = G1/2" NPT(only for "N" version)
Ⓣ	TYPE
	VR = Built in gauge
	VC = G1/8" gauge connection
Ⓢ	FILTER PORE SIZE ADJUSTING RANGE
	C = 5 μm / 0-8 bar
	D = 5 μm / 0-12 bar
	G = 20 μm / 0-8 bar
	H = 20 μm / 0-12 bar
	N = 50 μm / 0-8 bar
	P = 50 μm / 0-12 bar
Ⓞ	OPTIONS
	= Standard *
	A = Min.oil level indicator NO
	C = Min.oil level indicator NC
	S = Automatic drain
	SA = Automatic drain + Min.oil level indicator NO
	SC = Automatic drain + Min.oil level indicator NC
Ⓓ	FLOW DIRECTION
	= Standard (from left to right)
	W = from right to left

Service unit assembled (VE+AP)



Example : GT173BSB2 : size 3 combined group comprising Electric shut-off valve, Progressive start-up valve without coil with M2 pilot Technopolymer threads, G1/2" connections

3

Operational characteristics	Technical characteristics		
Combined group comprising Electric shut - off valve and Progressive start-up valve assembled with a (Y) type coupling kit for panel mounting.	Connections	G 3/8" - G 1/2"	Ordering code
	Max. inlet pressure	10 bar	**GⓋ173ⒸSⒶ**
	Min. inlet pressure	2.5 bar	
	Working temperature	-5°C +50°C	
	Weight with Technopolymer threads	gr. 549	
	Weight with threaded inserts	gr. 589	
	Assembly positions	Indifferent	
	Max. fitting torque (with Technopolymer threads)	G1/2" = 22 Nm	
	Max. fitting torque (with threaded inserts)	G3/8" = 25 Nm G1/2" = 30 Nm	
	Flow at 6 bar with Δp=1	2800 Nl/min.	

Ⓥ	VERSION
	N = Metal inserts
	T = Technopolymer thread
Ⓒ	CONNECTIONS
	A = G3/8"(only for "N" version)
	B = G1/2"
	C = G1/2" NPT(only for "N" version)
Ⓐ	15 mm COIL VOLTAGE
	A4 = 12 V DC
	A5 = 24 V DC
	A6 = 24 V AC (50-60 Hz)
	A7 = 110 V AC (50-60 Hz)
	A8 = 220 V AC (50-60 Hz)
	A9 = 24 V DC (1 Watt)
	22 mm COIL VOLTAGE
	B2 = Without coil M2 mechanic
	B4 = 12 V DC
	B5 = 24 V DC
	B6 = 24 V AC (50-60 Hz)
	B7 = 110 V AC (50-60 Hz)
	B8 = 220 V AC (50-60 Hz)
	B9 = 24 V DC (2 Watt)
	30 mm COIL VOLTAGE
	C5 = 24 V DC
	C6 = 24 V AC (50-60 Hz)
	C7 = 110 V AC (50-60 Hz)
	C8 = 230 V AC (50-60 Hz)
	C9 = 24 V DC (2 Watt)

3

Construction and working characteristics

The new “AIRPLUS” range of FRL units represents an evolution of the original 1700 series.
The latest technical features include; Improved performance and reliability as well as quick and easy assembly. The transparent polycarbonate (PC) bowls are fitted with a bowl protection guard which is assembled on the component body via a quick coupling mechanism which also includes a safety release button. The filters are available with 3 grades of filtration (5μm, 20μm and 50μm) as standard and also include a manual/semi-automatic drain. An automatic drain is also available.
The regulators are based on the rolling diaphragm technology with a low hysteresis and a balanced system. They can be supplied with an integral flush mounted pressure gauge and are available in 4 different pressure ranges from 0 - 12 bar, the adjusting knob can be locked by depressing it into the lock position.
The lubricator has been designed using the venture principle and the amount of oil is regulated via the adjusting screw which is positioned on top of the unit on the polycarbonate (PC) dome which also provides a visual indication of the amount of oil being regulated. The oil suction pipe is fitted with a sintered filter as standard which helps prevent contaminates reaching the downstream circuit.
Two versions of the shut-off valve are available, one manual and one being solenoid operated, in both cases the units are fitted with a threaded connection for exhausting the air from the downstream circuit. On the manual version it’s also possible to fit 3 padlocks whilst in the lock position in order to prevent accidental pressurization of the pneumatic system and avoid accidents or damage. The solenoid operated version is available with a 15mm solenoid operator.
The soft start valve provides a controlled progressive build-up of pressure downstream avoiding sudden pressure surges which could be dangerous for components fitted to the downstream circuit, the filling time can be adjusted via the built in flow regulator. The valve opens fully once the downstream pressure reaches 50% of the inlet pressure. The pressure switch module can be set between 2 - 10 bars and the intake module completes the range. All of the components are connected together using the technopolymer flange system which also allows the units to be panel mounted as well as the ability to replace components without having to disassemble the FRL from its position.

Instructions for installation and operation

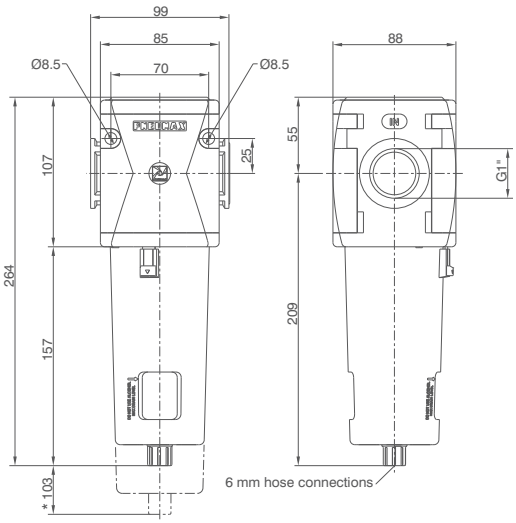
The FRL must be installed as close as possible to the application
The airflow must follow the direction as indicated on the FRL components or correspond with that indicated on the threaded connections (IN and OUT). All components fitted with a bowl must be mounted vertically with the bowl facing downwards. The FRL units can be wall mounted directly through the 8.5mm mounting holes or via the “Y” type quick coupling flange.
All units must be operated in according to the specified pressure and temperature ranges; fittings must be installed without exceeding the maximum torque allowed. The condensate level in both the filter and filter-regulator units must never exceed the maximum level indicated on the bowl. The condensate on the manual/semi-automatic drain unit can be discharged using 6/4mm tube fitted directly to the drain tap. The regulators pressure value must always be set whilst the pressure is rising ensuring the correct regulator and required pressure range have been selected. Lubricators must be filled with either FD22 or HG32 oils and the operator must ensure that the flow rate is above the minimum flow rate required to operate the unit. Below this value the unit does not operate correctly.
The oil quantity dispensed by the lubricator can be regulated by the adjusting the screw on the transparent polycarbonate dome through which the oil flow is visible. A drop of oil every 300 - 600 litres should be allowed and please note: The oil refill can take place only with the lubricator bowl NOT under pressure.
The lubricator can be refilled whilst the pneumatic circuit is pressurized thanks to the built in exhaust valve which allows the bowl to be depressurized and the oil refilled in the bowl.
The manual shut off valve is operated (On) with two actions, firstly push the knob down and secondly turn the knob clockwise. To discharge the downstream air, turn the knob anti-clockwise.
The soft start valve is used to slowly and progressively pressurize the downstream circuit; the time needed is adjustable via the built in flow regulator. Please note: The soft start valve on its own does not allow for the discharge of the downstream circuit, in order to do this it is necessary to combine this unit with a shut off valve (To be mounted upstream)

Maintenance

For any maintenance that requires the removal of the top or bottom plug/supports from the main component body it is necessary to remove the side cover plates and retaining screws. If the top or bottom plugs/supports are removed with the retaining screws still in place the unit could be permanently damaged

Bowls, plugs and supports are assembled with a bayonet type mechanism. In order to remove them rotate anti-clockwise until you reach a mechanical stop, then remove from the component body (For bowls, firstly press down the green safety button). Please note: Bowls and transparent parts can be cleaned with water and neutral soap. DO NOT USE SOLVENTS OR ALCOHOL
Filter elements (From filters and filter-regulators) made of HDPE can be regenerated by washing and blowing them. In order to remove the filter elements it is necessary to remove the bowl, unscrew the filter element, replace it with a new unit or clean the old one.
Lubricator oil can be refilled with the circuit pressurized thanks to the exhaust valve which is built and allows the bowl to be depressurized. Once this operation has been carried out it is possible to unscrew and remove the bowl to refill it or refill using the refill plug. Removing the bowl and refilling is preferred.
Should a pressure regulator not perform correctly or should a constant leak be detected form the relieving orifice beneath the adjusting knob it may be necessary to replace the diaphragm. Before attempting to replace the diaphragm unload the regulating spring before removing the regulator support. Due to the complexity of the regulator mechanism and the need to test the unit according to the Pneumax SpA specification any other repair should be carried out by the manufacturer.

Filter (F)

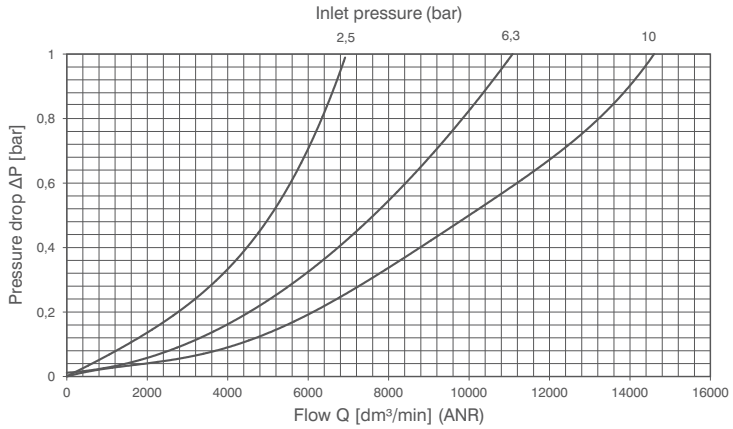


*Bowl removal maximum height

Example : N174BFB : size 4, Filter, G1" connections, 20 μm filter pore size

3

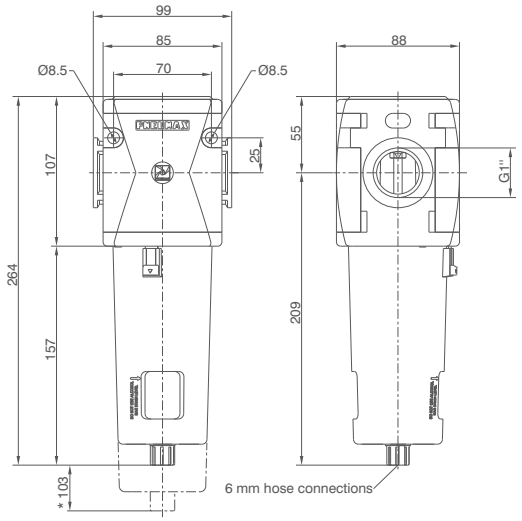
Flow rate curves



Operational characteristics	Technical characteristics		
- Double filtering action: air flow centrifugation and filter element	Connections	G1"	Ordering code
- Filtering element made of HDPE (high density polyethylene) available in three different filtration grades (5μm, 20μm and 50μm) can be regenerated by washing it or replaced.	Max. inlet pressure	13 bar	**N174BFⓈⓄ**
	Minimum working pressure with automatic drain	0,5 bar	
- Transparent bowl made off polycarbonate with bowl protection guard.	Maximum working pressure with automatic drain	10 bar	Ⓢ FILTER PORE SIZE A = 5 μm B = 20 μm C = 50 μm
- Bowl assembly via bayonet type quick coupling mechanism with safety button.	Working temperature	-5°C +50°C	Ⓞ OPTIONS = Standard * S = Automatic drain
- Semi-automatic drain mounted as standard; automatic drain upon request.	Weight	1155 (gr)	
Note	Filter pore size	5μm - 20μm - 50μm	
In order to ensure adequate flow on the auto drain version it is recommended to use minimum a 6mm fitting.	Bowl capacity	90 cm^3	
	Assembly positions	Vertical	
	Wall fixing screw	M8	

* no additional letter required

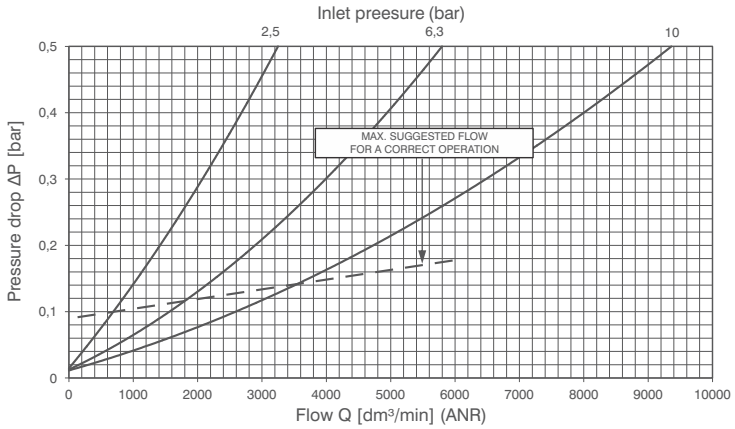
Coalescing filter (D)



*Bowl removal maximum height

Example : N174BDA : size 4, Coalescing filter, G1" connections, filter efficency 99,97%

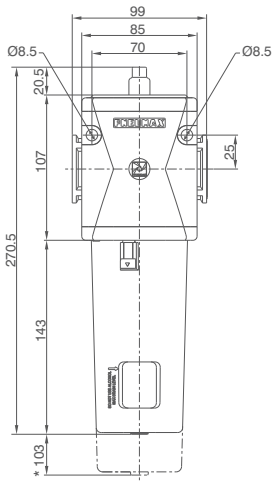
Flow rate curves

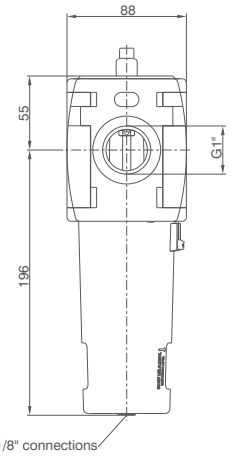


Operational characteristics	Technical characteristics		
- Coalescing filter element with filtration grade of 0,01 μm	Connections	G1"	Ordering code
- Transparent bowl made off polycarbonate with bowl protection guard.	Max. inlet pressure	13 bar	**N174BD(E)(O)**
- Bowl assembly via bayonet type quick coupling mechanism with safety button.	Minimum working pressure with automatic drain	0,5 bar	(E) FILTER EFFICIENCY: A = 99,97%
- Semi-automatic drain mounted as standard; automatic drain upon request.	Maximum working pressure with automatic drain	10 bar	(O) OPTIONS: = Standard * ; S = Automatic drain
Note	Working temperature	-5°C +50°C	
In order to ensure a better grade of filtration it is recommended to use a 5 μm filter before the coalescing filter. In order to ensure adequate flow on the auto drain version it is recommended to use minimum a 6mm fitting.	Weight	1235 (gr)	
	Filter efficiency with 0,01 μm particle	99,97%	
	Bowl capacity	90 cm^3	
	Assembly positions	Vertical	
	Wall fixing screw	M8	

* no additional letter required

Oil removal filter (DAV)



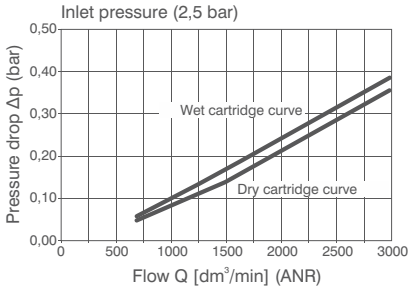


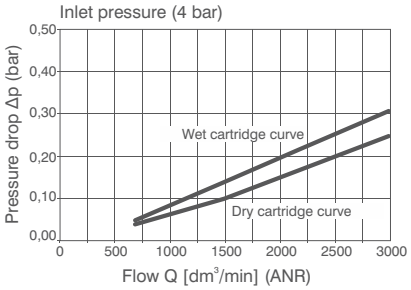
*Bowl removal maximum height

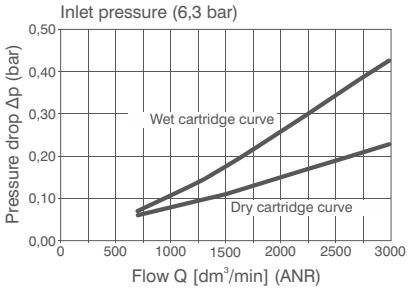
Example : N174BDAV : size 4, Oil removal filter, with clogging gauge, G1" connections.

3

Efficiency curve

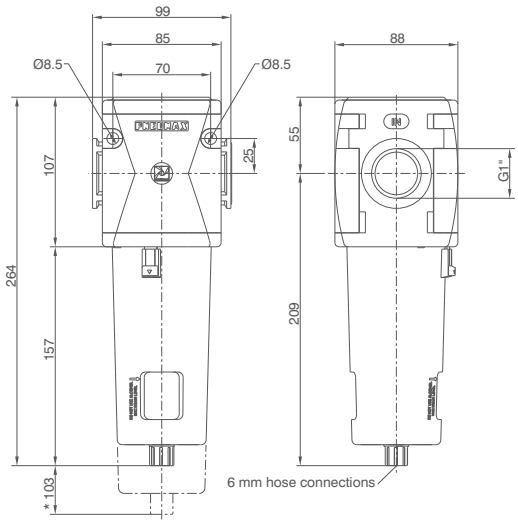






Operational characteristics	Technical characteristics		
- Coalescing filtering cartridge particle removal 0,01 μm oil residual 0,01 ppm	Connections	G1"	Ordering code
- Clogging gauge green: proper working red: clogged cartridge (Δp 0,5 bar) we recommend to change the cartridge	Nominal flow at 6,3 bar	13 bar	**N174BDAV**
- Transparent bowl made off polycarbonate with bowl protection guard.	Filter efficiency	3000 Nl/min	
- Bowl assembly via bayonet type quick coupling mechanism with safety button.	Max. inlet pressure	99,99%	
- Automatic drain mounted as standard.	Minimum working pressure with automatic drain	0,5 bar	
Note	Maximum working pressure with automatic drain	10 bar	
It is recommended to use a 5 μm filter before the oil removal filter. In order to ensure adequate flow on the auto drain version it is recommended to use minimum a 6mm fitting.	Working temperature	-5°C +50°C	
	Weight	1260 (gr)	
	Bowl capacity	90 cm³	
	Assembly positions	Vertical	
	Wall fixing screw	M8	

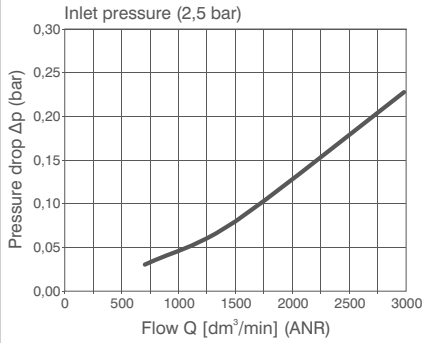
Carbon filter (DD)

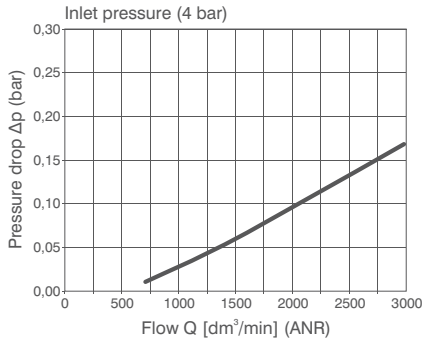


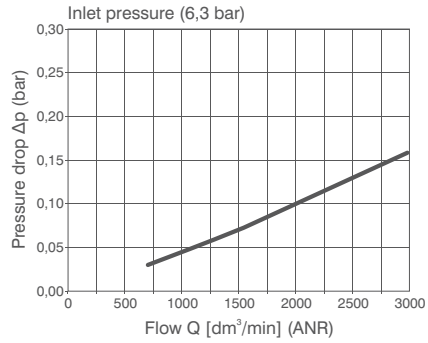
*Bowl removal maximum height

Example : N174BDD : size 4, Carbon filter with Technopolymer threads, G1" connections.

Efficiency curve







Operational characteristics

- Active carbon cartridge with built in particulate filter. Used to remove oil vapours, hydrocarbons, odours and particles coming from the compressed air lines or gasses in industrial applications. Oil residue up to <0,003 ppm (max imput aereosol 0.01ppm).
- Innovative filtering technology; high absorption capacity, with low differential pressure.
- Transparent bowl made off polycarbonate with bowl protection guard.
- Bowl assembly via bayonet type quick coupling mechanism with safety button.
- Semi-automatic drain mounted as standard.

Note

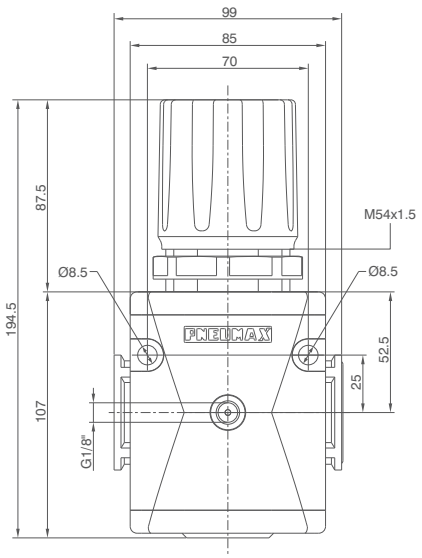
A 5 micron filter followed by a coalescing filter must be installed before the Oil removal filter in order to ensure the correct functionality of the unit and to safeguard the life of the active carbon cartridge. It is also necessary to preventively replace the cartridges at fixed intervals.

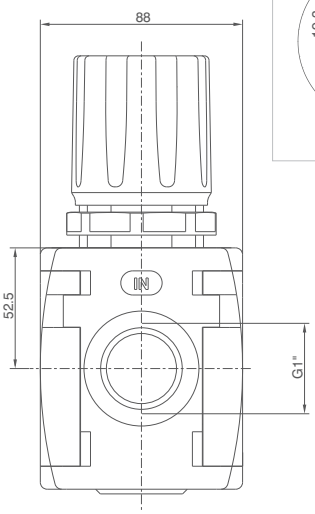
Technical characteristics

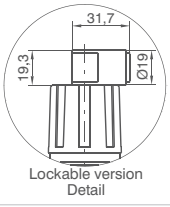
Connections	G 1"
Nominal flow at 6,3 bar	3000 Nl/min
Cartridge life	2000 hours
Max. inlet pressure	13 bar
Working temperature	-5°C ÷ +50°C
Weight	gr. 1260
Bowl capacity	90 cm³
Assembly positions	Vertical
Wall fixing screw	M8

Ordering code
N174BDD

Regulator (R)





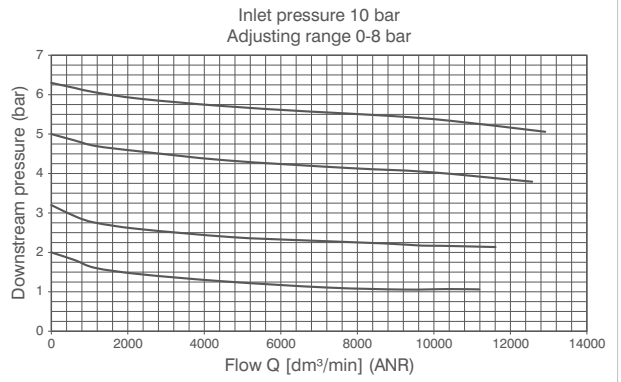


Lockable version
Detail

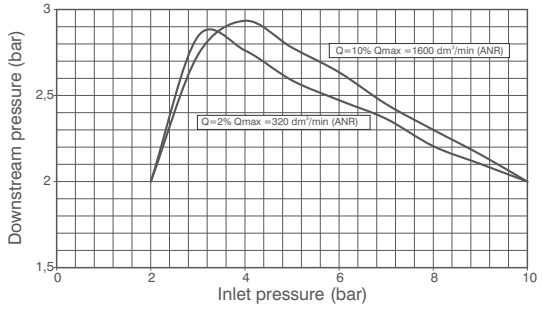
Example: N174BRC : size 4, Regulator, G1" connections, 0 to 8 bar adjusting range

3

Flow rate curves



Adjustment characteristics



Operational characteristics

- Diaphragm pressure regulator with relieving.
- Low hysteresis rolling diaphragm.
- Balanced system.
- Available in four pressure ranges up to 12 bar.
- Operating knob can be locked in position by pressing it down once the desired P2 (regulated pressure) pressure value is achieved.
- Fitted with panel mounting locking ring.

Note

The pressure must be always regulating while increasing. For a more precise regulation and higher sensibility, the use of a regulator with a pressure range as close as possible to the regulated pressure is recommended.

Technical characteristics

Connections	G1”
Max. inlet pressure	13 bar
Working temperature	-5°C +50°C
Pressure gauge connections	G 1/8”
Weight	1225 (gr)
Pressure range	0-2 bar / 0-4 bar 0-8 bar / 0-12 bar
Assembly positions	Indifferent
Wall fixing screw	M8

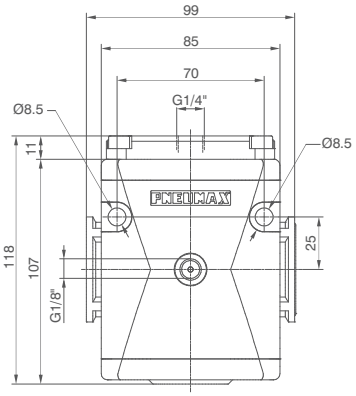
Ordering code

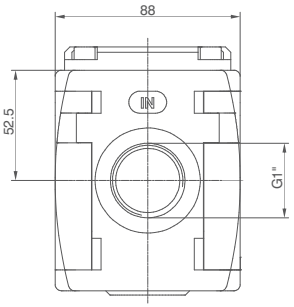
N174BR(G)(T)(O)

(G)	ADJUSTING RANGE
	A = 0-2 bar
	B = 0-4 bar
	C = 0-8 bar
	D = 0-12 bar
(T)	TYPE
	= Standard*
	L = no relieving
	R = Improved relieving
(O)	OPTIONS
	= Standard*
	K = Lockable version

* no additional letter required

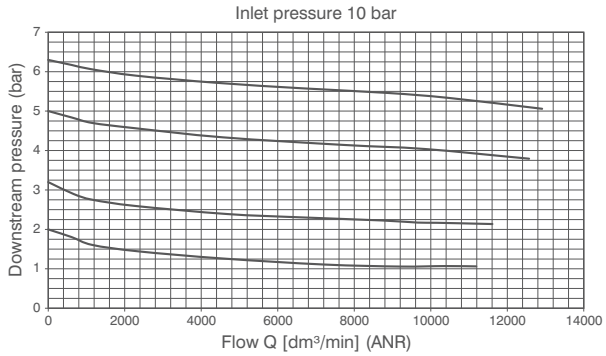
Piloted pressure regulator (R)



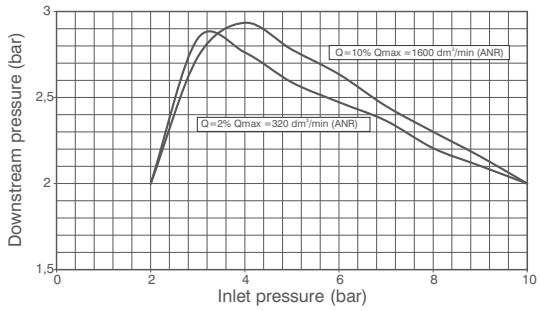


Example: N174BRP : size 4, Piloted pressure regulator with G1" connection

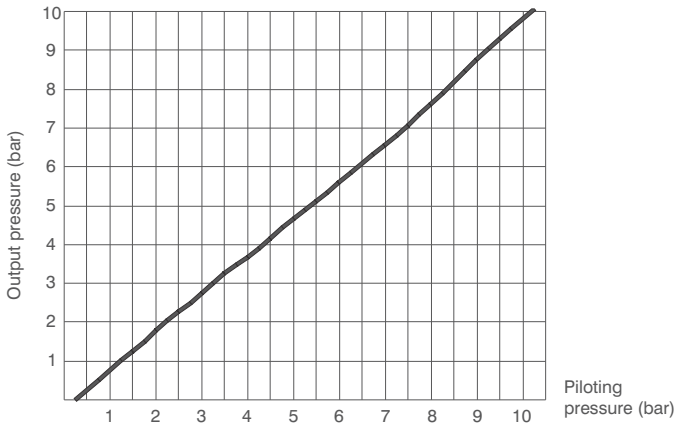
Flow rate curves



Adjustment characteristics

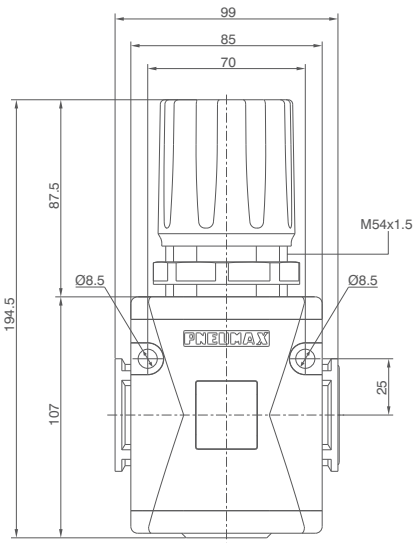


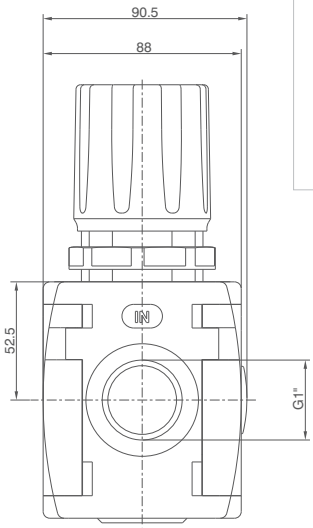
Piloting curves

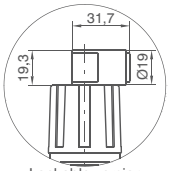


Operational characteristics	Technical characteristics		
- Piston pressure regulator with relieving	Connections	G1”	Ordering code
- Balanced system	Pilot port size	G1/4"	
Note	Max. inlet pressure	13 bar	**N174BRP**
Always regulate the rising pressure.	Working temperature	-5°C +50°C	
	Pressure gauge connections	G 1/8”	
	Weight	1155 (gr)	
	Assembly positions	Indifferent	
	Wall fixing screw	M8	

Regulator including gauge (RM)(RW)





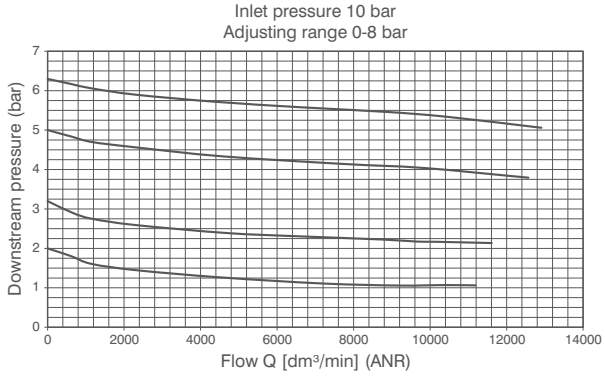


Lockable version
Detail

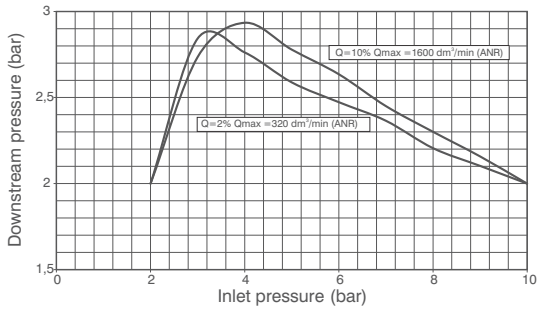
Example : N174BRMC : size 4, Regulator including gauge, G1" connections, 0 to 8 bar adjusting range

3

Flow rate curves



Adjustment characteristics



Operational characteristics

- Diaphragm pressure regulator with relieving.
- Low hysteresis rolling diaphragm.
- Balanced system.
- Available in four pressure ranges up to 12 bar.
- Operating knob can be locked in position by pressing it down once the desired P2 (regulated pressure) pressure value is achieved.
- Fitted with panel mounting locking ring.
- Integrated manometer 0-12 bar as standard (for 0-8 and 0-12 bar range) and 0-4 bar (for 0-2 and 0-4 range)

Note

The pressure must be always regulating while increasing. For a more precise regulation and higher sensibility, the use of a regulator with a pressure range as close as possible to the regulated pressure is recommended.

Technical characteristics

Connections	G1”
Max. inlet pressure	13 bar
Working temperature	-5°C +50°C
Weight	1220 (gr)
Pressure range	0-2 bar / 0-4 bar 0-8 bar / 0-12 bar
Assembly positions	Indifferent
Wall fixing screw	M8

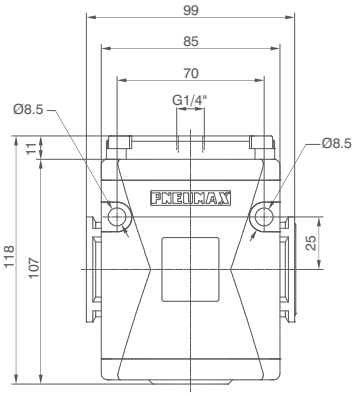
Ordering code

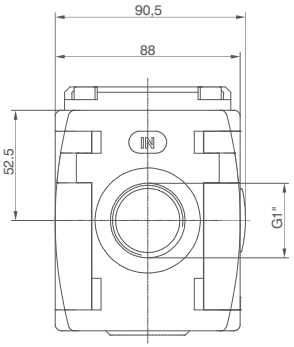
N174BR(D)(G)(T)(O)

(D)	FLOW DIRECTION
	M = from left to right
	W = from right to left
(G)	ADJUSTING RANGE
	A = 0-2 bar
	B = 0-4 bar
	C = 0-8 bar
	D = 0-12 bar
(T)	TYPE
	= Standard *
	L = no relieving
	R = Improved relieving
(O)	OPTIONS
	= Standard *
	K = Lockable version

* no additional letter required

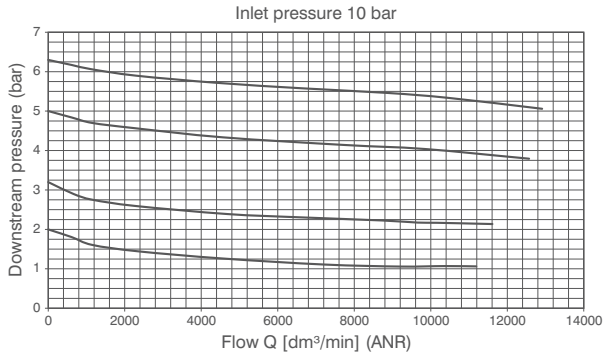
Piloted pressure regulator with integrated manometer (RM)(RW)



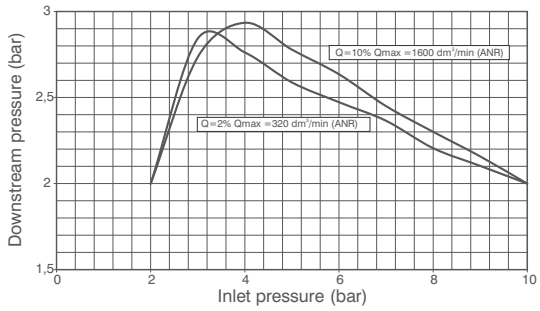


Example: N174BRMP : size 4, Piloted pressure regulator with integrated manometer with G1" connection

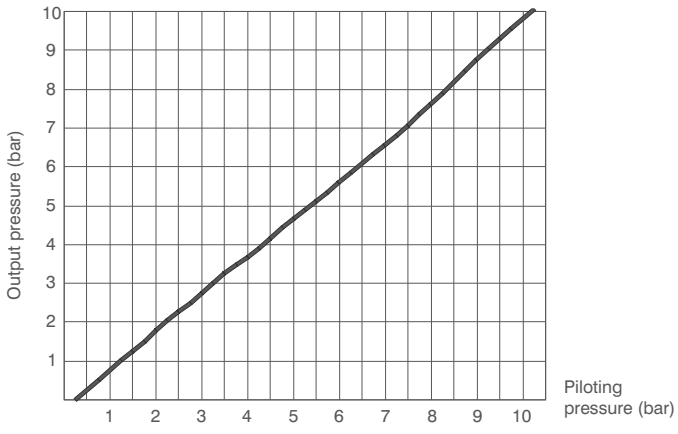
Flow rate curves



Adjustment characteristics

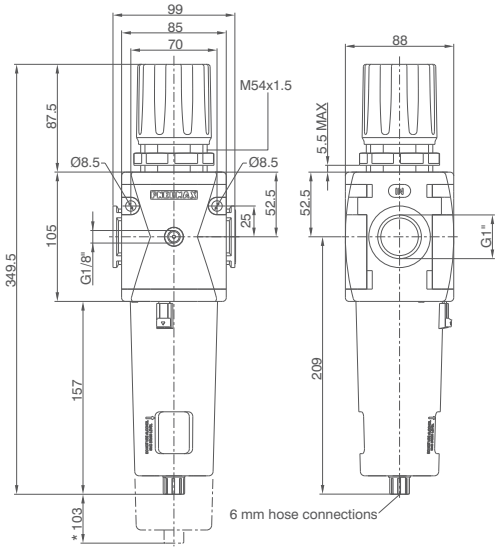


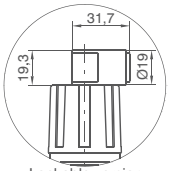
Piloting curves



Operational characteristics	Technical characteristics		
- Piston pressure regulator with relieving	Connections	G1"	Ordering code
- Balanced system	Pilot port size	G1/4"	N174BRⒹP
- Built in gauge 0-12 bar range as standard.	Max. inlet pressure	13 bar	
Note	Working temperature	-5°C +50°C	Ⓓ FLOW DIRECTION
Always regulate the rising pressure.	Pressure gauge connections	G 1/8"	M = from left to right
	Weight	1150 (gr)	W = from right to left
	Assembly positions	Indifferent	
	Wall fixing screw	M8	

Filter-Regulator (E)





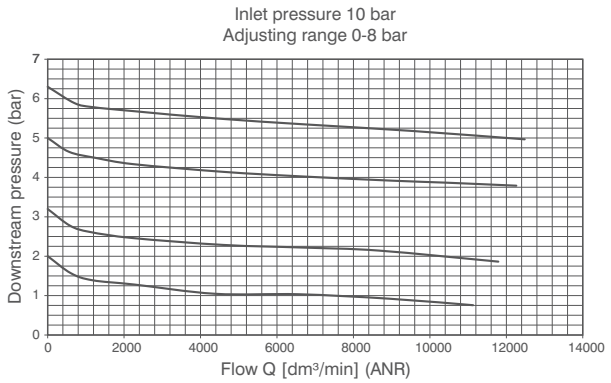
Lockable version
Detail

*Bowl removal maximum height

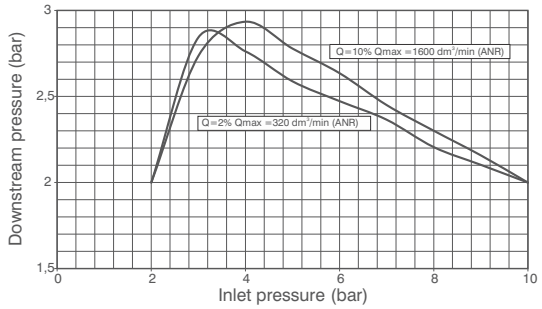
Example : N174BEBC : size 4, Filter-regulator, G1" connections, 20 μm filtering pore size, 0 to 8 bar adjusting range

3

Flow rate curves



Adjustment characteristics



Operational characteristics

- Filter - diaphragm pressure regulator with relieving.
- Low hysteresis rolling diaphragm.
- Balanced system.
- Double filtering action: air flow centrifugation and filter element.
- Filtering element made of HDPE (high density polyethylene) available in three different filtration grades (5μm, 20μm and 50μm) can be regenerated by washing it or replaced.
- Transparent bowl made off polycarbonate with bowl protection guard.
- Bowl assembly via bayonet type quick coupling mechanism with safety button.
- Semi-automatic drain mounted as standard; automatic drain upon request.
- Available in four pressure ranges up to 12 bar.
- Operating knob can be locked in position by pressing it down once the desired P2 (regulated pressure) pressure value is achieved.
- Fitted with panel mounting locking ring.

Note

The pressure must be always regulating while increasing. For a more precise regulation and higher sensibility, the use of a regulator with a pressure range as close as possible to the regulated pressure is recommended. In order to ensure adequate flow on the auto drain version it is recommended to use minimum a 6mm fitting.

Technical characteristics

Connections	G1”
Max. inlet pressure	13 bar
Minimum working pressure with automatic drain	0,5 bar
Maximum working pressure with automatic drain	10 bar
Working temperature	-5°C +50°C
Pressure gauge connections	G 1/8”
Weight	1450 (gr)
Pressure range	0-2 bar / 0-4 bar 0-8 bar / 0-12 bar
Filter pore size	5 μm - 20 μm - 50 μm
Bowl capacity	90 cm^3
Assembly positions	Vertical
Wall fixing screw	M8

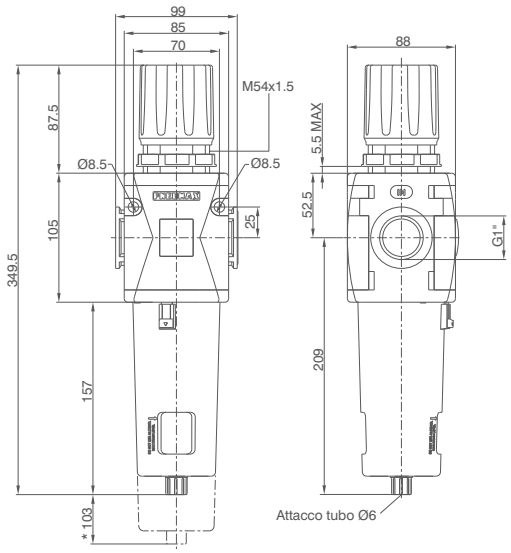
Ordering code

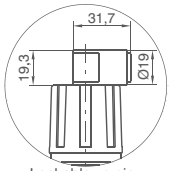
N174BE(S)(G)(T)(O)

(S)	FILTER PORE SIZE
	A = 5 μm
	B = 20 μm
	C = 50 μm
(G)	ADJUSTING RANGE
	A = 0-2 bar
	B = 0-4 bar
	C = 0-8 bar
	D = 0-12 bar
(T)	TYPE
	= Standard *
	S = Automatic drain
(O)	OPTIONS
	= Standard *
	K = Lockable version

* no additional letter required

Filter-regulator including gauge (EM)(EW)

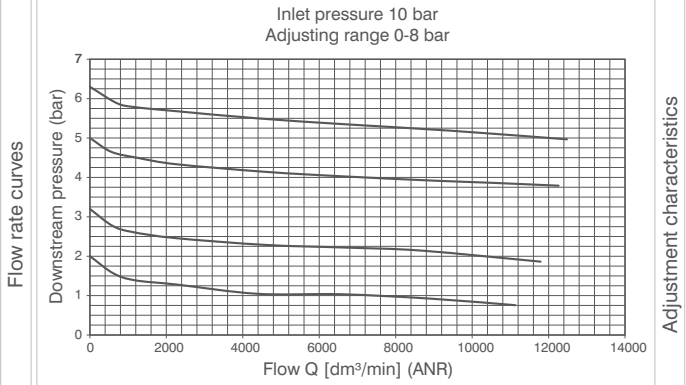


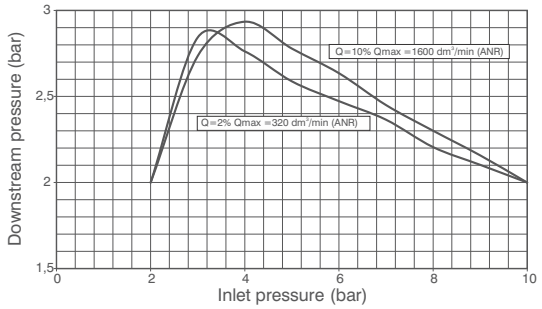


Lockable version
Detail

*Bowl removal maximum height

Example: N174BEMBC : size 4, Filter-regulator including gauge, G1" connections, with 20 μm filtering pore size, 0 to 8 bar adjusting range





Operational characteristics

- Filter - diaphragm pressure regulator with relieving.
- Low hysteresis rolling diaphragm.
- Balanced system.
- Double filtering action: air flow centrifugation and filter element.
- Filtering element made of HDPE (high density polyethylene) available in three different filtration grades (5μm, 20μm and 50μm) can be regenerated by washing it or replaced.
- Transparent bowl made of polycarbonate with bowl protection guard.
- Bowl assembly via bayonet type quick coupling mechanism with safety button.
- Semi-automatic drain mounted as standard; automatic drain upon request.
- Available in four pressure ranges up to 12 bar.
- Operating knob can be locked in position by pressing it down once the desired P2 (regulated pressure) pressure value is achieved.
- Fitted with panel mounting locking ring.
- Integrated manometer 0-12 bar as standard (for 0-8 and 0-12 bar range) and 0-4 bar (for 0-2 and 0-4 range)

Note

The pressure must be always regulating while increasing. For a more precise regulation and higher sensibility, the use of a regulator with a pressure range as close as possible to the regulated pressure is recommended. In order to ensure adequate flow on the auto drain version it is recommended to use minimum a 6mm fitting.

Technical characteristics

Connections	G1"
Max. inlet pressure	13 bar
Minimum working pressure with automatic drain	0,5 bar
Maximum working pressure with automatic drain	10 bar
Working temperature	-5°C +50°C
Weight	1440 (gr)
Pressure range	0-2 bar / 0-4 bar 0-8 bar / 0-12 bar
Filter pore size	5 μm - 20 μm - 50 μm
Bowl capacity	90 cm³
Assembly positions	Vertical
Wall fixing screw	M8

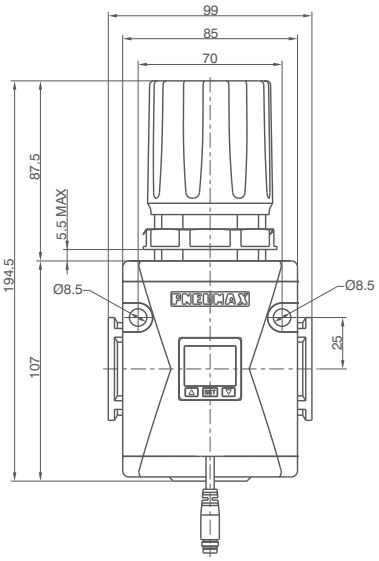
Ordering code

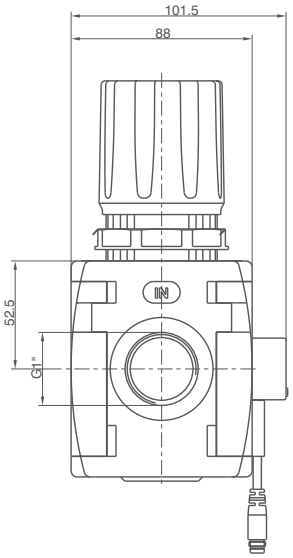
N174BE(D)(S)(G)(T)(O)

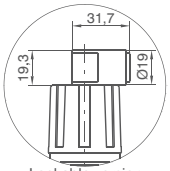
(D)	FLOW DIRECTION
	M = from left to right
	W = from right to left
(S)	FILTER PORE SIZE
	A = 5 μm
	B = 20 μm
	C = 50 μm
(G)	ADJUSTING RANGE
	A = 0-2 bar
	B = 0-4 bar
	C = 0-8 bar
	D = 0-12 bar
(T)	TYPE
	= Standard *
	S = Automatic drain
(O)	OPTIONS
	= Standard *
	K = Lockable version

* no additional letter required

Regulator with pressure switch (RP)(RZ)





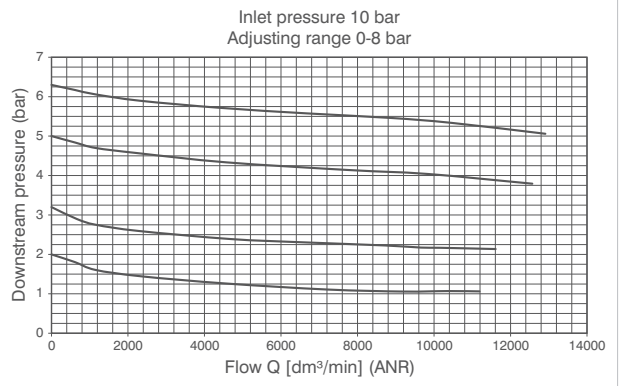


Lockable version
Detail

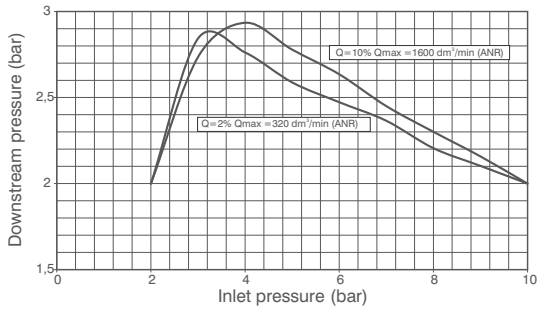
Example : N174BRPCA : size 4, Regulator, G1" connections, 0 to 8 bar adjusting range, with pressure switch with M8 connector PNP

3

Flow rate curves



Adjustment characteristics



Operational characteristics

- Diaphragm pressure regulator with relieving.
- Low hysteresis rolling diaphragm.
- Balanced system.
- Available in four pressure ranges up to 12 bar.
- Operating knob can be locked in position by pressing it down once the desired P2 (regulated pressure) pressure value is achieved.
- Fitted with panel mounting locking ring.
- Pressure switch as standard

Note

The pressure must be always regulating while increasing. For a more precise regulation and higher sensibility, the use of a regulator with a pressure range as close as possible to the regulated pressure is recommended.

Technical characteristics

Connections	G1”
Max. inlet pressure	13 bar
Working temperature	0°C +50°C
Weight	1260 (gr)
Pressure range	0-2 bar / 0-4 bar 0-8 bar / 0-12 bar
Assembly positions	Indifferent
Wall fixing screw	M8

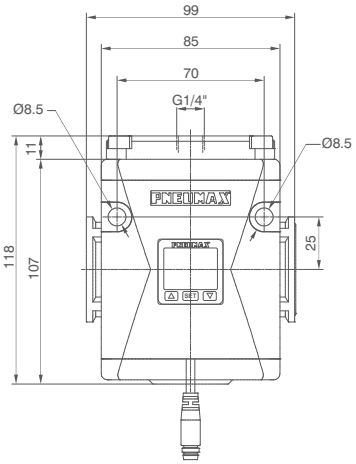
Ordering code

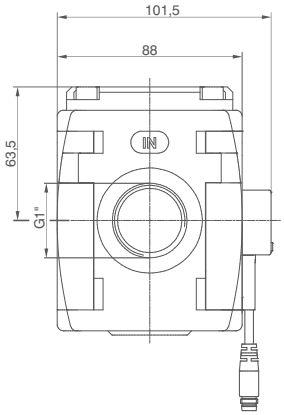
N174BR(D)(G)(T)(O)(P)

(D)	FLOW DIRECTION
	P = from left to right
	Z = from right to left
(G)	ADJUSTING RANGE
	A = 0-2 bar
	B = 0-4 bar
	C = 0-8 bar
	D = 0-12 bar
(T)	TYPE
	= Standard *
	L = no relieving
	R = Improved relieving
(O)	OPTIONS
	= Standard *
	K = Lockable version
(P)	PRESSURE SWITCH OPTION
	A = Cable 150 mm+M8 PNP
	B = Cable 150 mm+M8 NPN
	C = Cable 2 mt. PNP
	D = Cable 2 mt. NPN

* no additional letter required

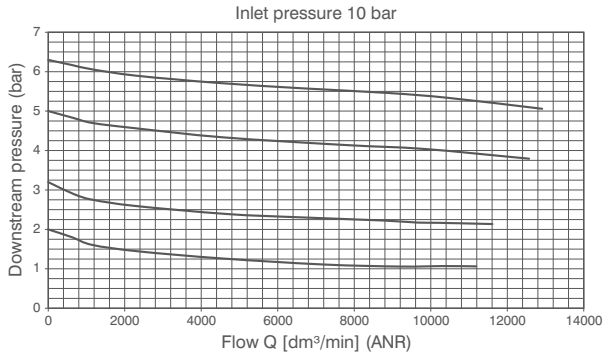
Piloted pressure regulator with digital pressure switch (RP)(RZ)



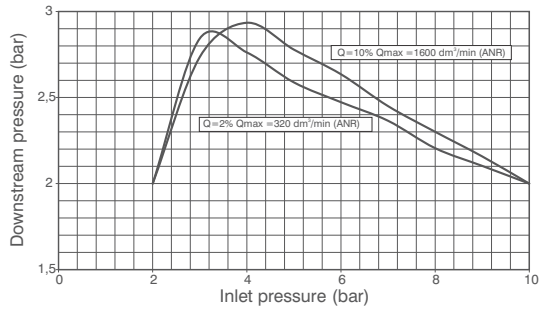


Example: N174BRPAP : size 4, Piloted pressure regulator, G1" connections, with pressure switch with M8 connector PNP

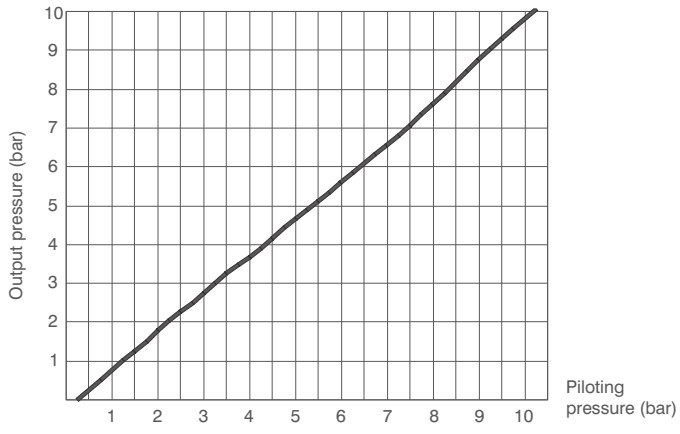
Flow rate curves



Adjustment characteristics

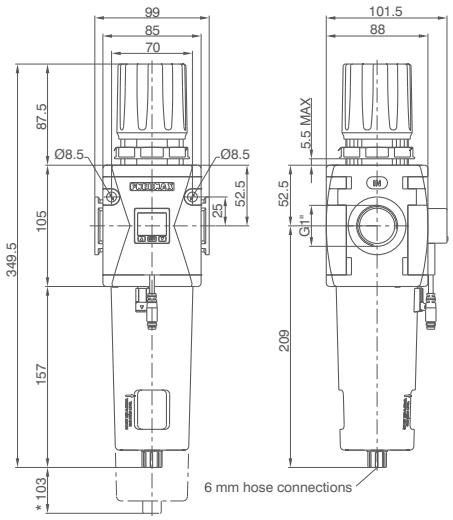


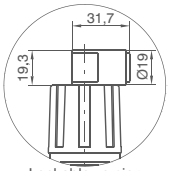
Piloting curves



Operational characteristics	Technical characteristics		
- Piston pressure regulator with relieving	Connections	G1”	Ordering code
- Balanced system	Pilot port size	G1/4"	N174BRⒹⓄP
- Pressure switch as standard	Max. inlet pressure	13 bar	
Note	Working temperature	-5°C +50°C	Ⓓ FLOW DIRECTION
Always regulate the rising pressure.	Pressure gauge connections	G 1/8”	P = from left to right
	Weight	1190 (gr)	Z = from right to left
	Assembly positions	Indifferent	Ⓟ PRESSURE SWITCH OPTION
	Wall fixing screw	M8	A = Cable 150 mm+M8 PNP
			B = Cable 150 mm+M8 NPN
			C = Cable 2 mt. PNP
			D = Cable 2 mt. NPN

Filter regulator with pressure switch (EP)(EZ)





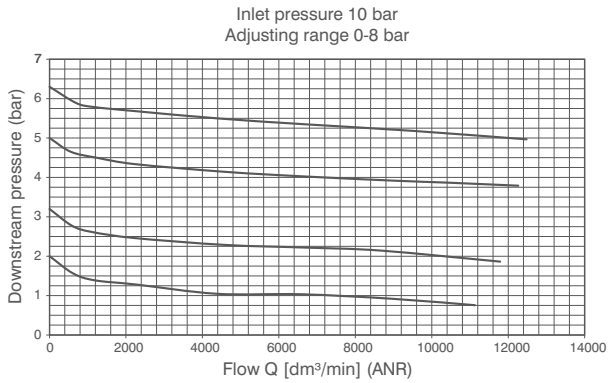
Lockable version
Detail

*Bowl removal maximum height

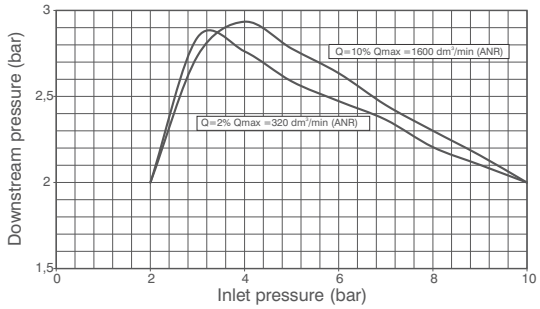
Example: N174BEPBCA : size 4, Filter-regulator, G1" connections, 20 μm filtering pore size, 0 to 8 bar adjusting range, with pressure switch with M8 connector PNP

3

Flow rate curves



Adjustment characteristics



Operational characteristics

- Filter - diaphragm pressure regulator with relieving.
- Low hysteresis rolling diaphragm.
- Balanced system.
- Double filtering action: air flow centrifugation and filter element.
- Filtering element made of HDPE (high density polyethylene) available in three different filtration grades (5μm, 20μm and 50μm) can be regenerated by washing it or replaced.
- Transparent bowl made of polycarbonate with bowl protection guard.
- Bowl assembly via bayonet type quick coupling mechanism with safety button.
- Semi-automatic drain mounted as standard; automatic drain upon request.
- Available in four pressure ranges up to 12 bar.
- Operating knob can be locked in position by pressing it down once the desired P2 (regulated pressure) pressure value is achieved.
- Fitted with panel mounting locking ring.
- Pressure switch as standard

Note

The pressure must be always regulating while increasing. For a more precise regulation and higher sensibility, the use of a regulator with a pressure range as close as possible to the regulated pressure is recommended. In order to ensure adequate flow on the auto drain version it is recommended to use minimum a 6mm fitting.

Technical characteristics

Connections	G1"
Max. inlet pressure	13 bar
Minimum working pressure with automatic drain	0,5 bar
Maximum working pressure with automatic drain	10 bar
Working temperature	0°C +50°C
Weight	1490 (gr)
Pressure range	0-2 bar / 0-4 bar 0-8 bar / 0-12 bar
Filter pore size	5 μm - 20 μm - 50 μm
Bowl capacity	90 cm^3
Assembly positions	Vertical
Wall fixing screw	M8

Ordering code

N174BE(D)(S)(G)(T)(O)(P)

(D)	FLOW DIRECTION
	P = from left to right
	Z = from right to left
(S)	FILTER PORE SIZE
	A = 5 μm
	B = 20 μm
	C = 50 μm
(G)	ADJUSTING RANGE
	A = 0-2 bar
	B = 0-4 bar
	C = 0-8 bar
	D = 0-12 bar
(T)	TYPE
	= Standard *
	S = Automatic drain
(O)	OPTIONS
	= Standard *
	K = Lockable version
(P)	PRESSURE SWITCH OPTION
	A = Cable 150 mm+M8 PNP
	B = Cable 150 mm+M8 NPN
	C = Cable 2 mt. PNP
	D = Cable 2 mt. NPN

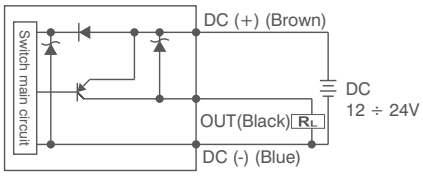
* no additional letter required

CHARACTERISTICS

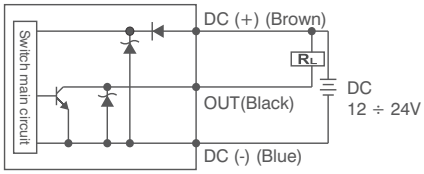
- 3 color digital LCD display, easy readout
- 4 units of measurement for pressure indication
- PNP and NPN output
- N.O. and N.C. output contact
- Not available individually, but only with a Regulator or a Filter-regulator

OUTPUT CIRCUIT WIRING DIAGRAMS

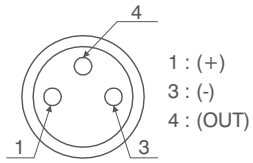
PNP output



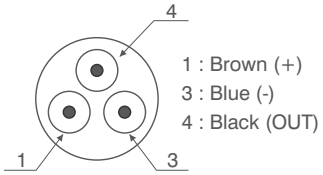
NPN output



M8 CONNECTOR PIN LAY OUT



3 WIRES CABLE LAY OUT



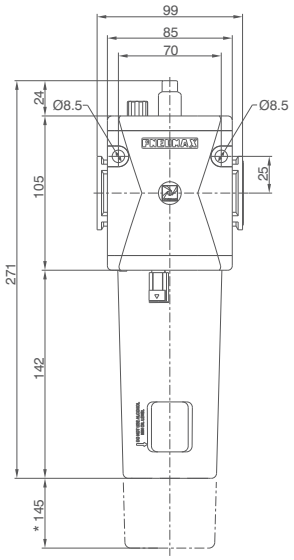
Cable ordering code

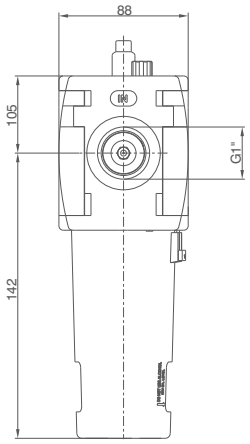
MCH1	cable 3 wires l=2,5m with M8 connector
MCH2	cable 3 wires l=5m with M8 connector
MCH3	cable 3 wires l=10m with M8 connector

Connector

TECHNICAL CHARACTERISTICS	
Adjusting range	0 - 10 bar / 0 - 1MPa
Max. inlet pressure	15 bar / 1,5 MPa
Fluid	Filtered and dehumidified air
Display unit of measurement	MPa - kgf/cm² - bar - psi
Supply voltage	12 - 24 VDC
Current consumption	≤40mA (without load)
Digital output type	NPN - PNP
Type of contact	Normally Open - Normally Closed
Max. load current	125 mA
Digital output activation mode	single threshold with fixed hysteresis - window with fixed hysteresis - window without hysteresis
Digital output activation time	0.05s - 0.25s - 0.5s - 1s - 2s - 3s (selections for chattering-proof function)
Display characteristics	Double 3 1/2 digit display Digital output status indication Three-pushbuttons touchpad
Indicator accuracy	≤±2% F.S. ± 1 digit
Protection grade	IP 40
Temperature	0 - 50 °C
Cable section	3 x 0,129mm², Ø4 mm, PVC

Lubricator (L)



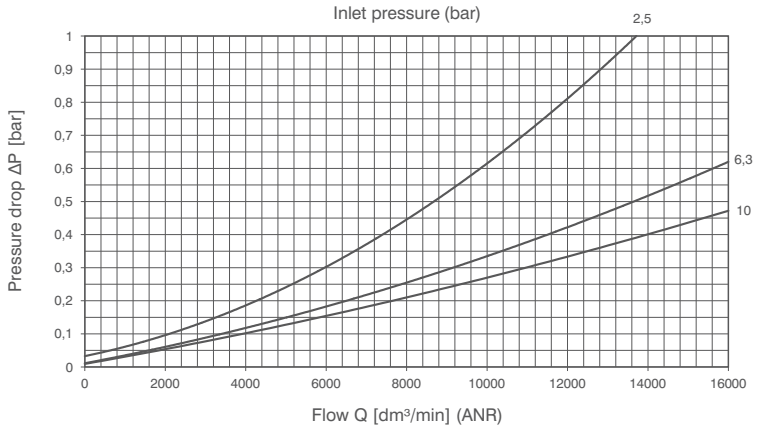


*Bowl removal maximum height

Example : N174BL : size 4, Lubricator, G1" connections

3

Flow rate curves



Operational characteristics

- Oil mist lubrication with variable orifice size in function of the flow rate
- Oil quantity regulation mechanism and oil quantity visualization dome made of polycarbonate.
- Transparent bowl made off polycarbonate with bowl protection guard.
- Bowl assembly via bayonet type quick coupling mechanism with safety button.
- Oil filling plug
- Oil can be refilled with pressurized circuit.
- Available with electric min-level sensor N.O. or N.C. with connection for connector.
- For electrical connection use connectors type C1-C2-C3 (see sensors chapter in the catalogue).

Note

Install as close as possible to the point o fuse
Do not use alcohol, detergin oils or solvents.

Technical characteristics

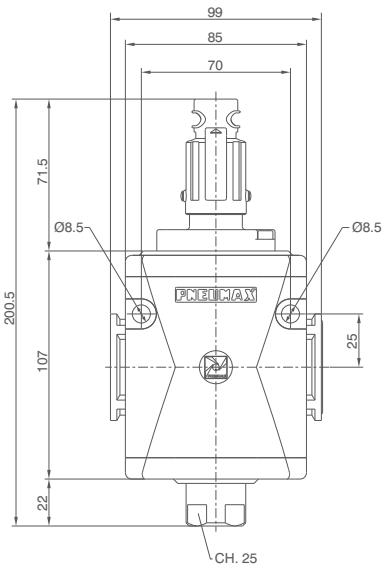
Connections	G1"
Max. inlet pressure	13 bar
Working temperature	-5°C +50°C
Weight	1025 (gr)
Indicative oil drip rate	1 drop every 300/600 Nl
Oil type	FD22 - HG32
Bowl capacity	360 cm^3
Assembly positions	Vertical
Min. operational flow at 6,3 bar	100 dm^3/min. (ANR)
Wall fixing screw	M8

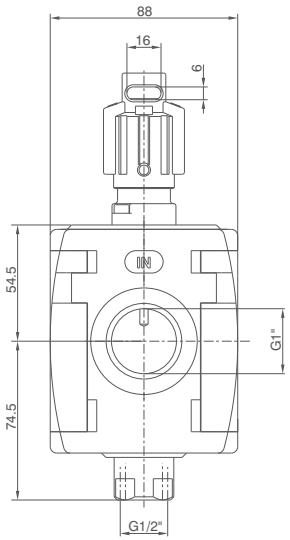
Ordering code

N174BL◉

◉	OPTIONS
	A = Min. Oil level indicator Normally open
	C = Min. Oil level indicator Normally closed

Shut-off valve (VL)

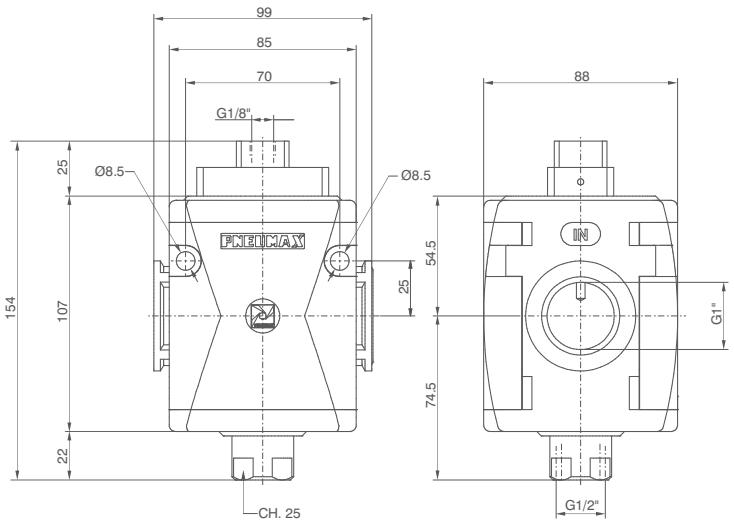




Example: N174BVL : size 4, Shut-off valve, G1" connections

Operational characteristics	Technical characteristics		
- Manual operated 3 ways poppet valve. - Double handle action for valve opening: pushing and rotating (clockwise). - The valve can be closed and the down stream circuit depressurized by rotating anticlockwise the knob. - Knob lockable with three padlocks.	Connections	G1"	Ordering code
	Max. inlet pressure	10 bar	**N174BVL**
	Working temperature	-5°C +50°C	
	Weight	1100 (gr)	
	Assembly positions	Indifferent	
	Handle opening and closing angle	90°	
	Nominal flow rate at 6 bar with Δp=1 (from 1 to 2)	15000 dm^3/min. (ANR)	
	Exhaust nominal flow rate at 6 bar with Δp=1 (from 2 to 3)	3600 dm^3/min. (ANR)	
	Nominal flow rate with free exhaust at 6 bar (from 2 to 3)	5000 dm^3/min. (ANR)	
	Wall fixing screw	M8	

Pneumatic shut-off valve (VP)

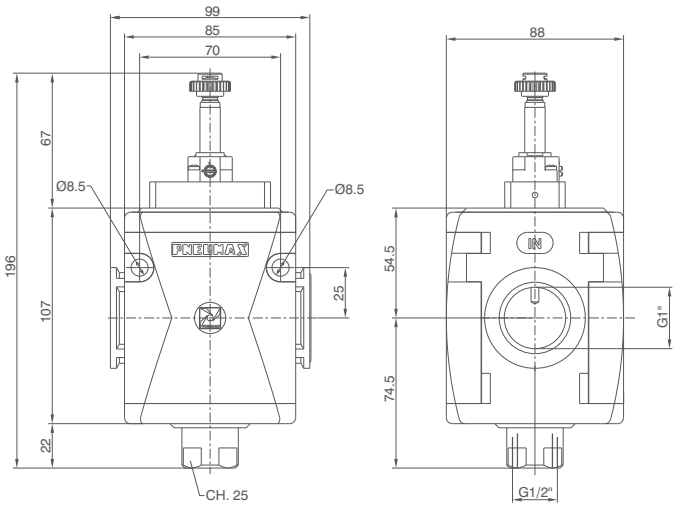


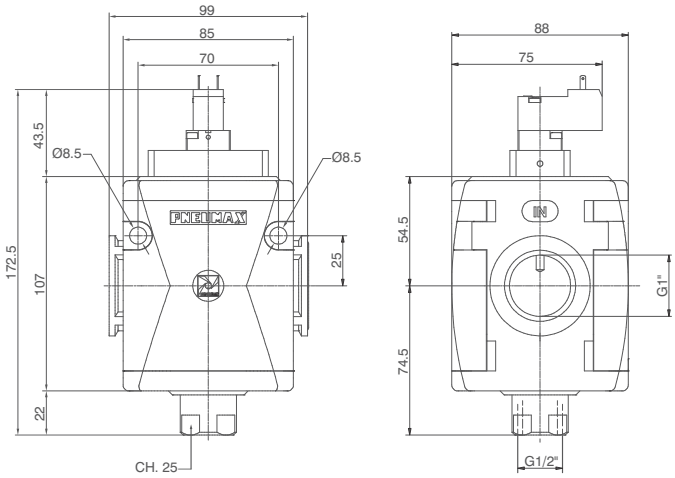
Example: N174BVP : size 4, Pneumatic shut-off valve with Technopolymer threads, G1" connections

3

Operational characteristics	Technical characteristics		
- Pneumatic operated 3 ways poppet valve. - When the pneumatic signal is removed the valves exhaust the pneumatic circuit	Connections	G1”	Ordering code
	Discharge connection	G1/2"	
	Pilot port size	G1/8"	**N174BVP**
	Working temperature	-5°C +50°C	
	Weight	gr. 1.133	
	Assembly positions	Indifferent	
	Min. pressure working	2,5 bar	
	Max. pressure working	10 bar	
	Nominal flow rate at 6 bar with Δp=1 (from 1 to 2)	15000 dm^3/min. (ANR)	
	Exhaust nominal flow rate at 6 bar with Δp=1 (from 2 to 3)	3600 dm^3/min. (ANR)	
	Nominal flow rate with free exhaust at 6 bar (from 2 to 3)	5000 dm^3/min. (ANR)	
	Wall fixing screw	M8	

Electric shut-off valve (VE)



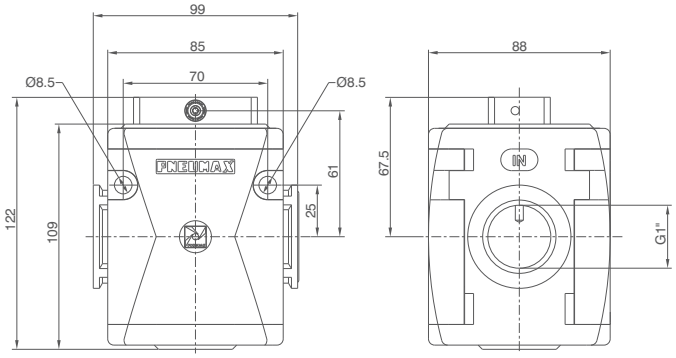


Example : N174BVEB2 : size 4, Electric shut-off valve, with M2 Pilot without coil, G1" connections

Operational characteristics	Technical characteristics		
- Solenoid operated 3 ways poppet valve. - The model fitted with 15 mm pilots uses pilots series N33_0A and N33_0E (1 Watt)	Supply and operating connections	G1"	Ordering code
	Discharge connections	G 1/2"	**N174BVE Ⓐ**
	Working temperature	-5°C +50°C	
	Weight	1170 (gr)	
	Assembly positions	Indifferent	
	Min. Pressure working	2,5 bar	
	Max. Pressure working	10 bar	
	Nominal flow rate at 6 bar with Δp=1 (from 1 to 2)	15000 dm^3/min. (ANR)	
	Exhaust nominal flow rate at 6 bar with Δp=1 (from 2 to 3)	3600 dm^3/min. (ANR)	
	Nominal flow rate with free exhaust at 6 bar (from 2 to 3)	5000 dm^3/min. (ANR)	
	Wall fixing screw	M8	

Ⓐ	
	15 mm COIL VOLTAGE
	A4 = 12 V DC
	A5 = 24 V DC
	A6 = 24 V AC (50-60 Hz)
	A7 = 110 V AC (50-60 Hz)
	A8 = 220 V AC (50-60 Hz)
	A9 = 24 V DC (1 Watt)
	22 mm COIL VOLTAGE
	B2 = Wthout coil M2 mechanic
	B4 = 12 V DC
	B5 = 24 V DC
	B6 = 24 V AC (50-60 Hz)
	B7 = 110 V AC (50-60 Hz)
	B8 = 220 V AC (50-60 Hz)
	B9 = 24 V DC (2 Watt)
	30 mm COIL VOLTAGE
	C5 = 24 V DC
	C6 = 24 V AC (50-60 Hz)
	C7 = 110 V AC (50-60 Hz)
	C8 = 230 V AC (50-60 Hz)
	C9 = 24 V DC (2 Watt)

Progressive start-up valve (AP)

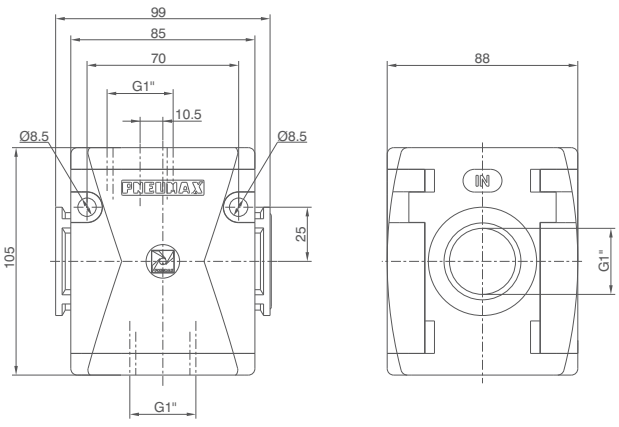


Example : N174BAP : size 4, Progressive start-up valve, G1" connections

3

Operational characteristics	Technical characteristics		
- Down stream circuit filling time regulated via a built in flow regulator. - Full pressure is allowed once the down stream circuit pressure reaches 50% of the inlet pressure.	Connections	G1"	Ordering code
	Max. inlet pressure	13 bar	**N174BAP(D)**
	Working temperature	-5°C +50°C	
	Weight	1100 (gr)	(D) FLOW DIRECTION = from left to right; W = from right to left
	Assembly positions	Indifferent	
	Min. pressure working	2,5 (bar)	
	Nominal flow rate at 6 bar with Δp=1	15000 dm^3/min. (ANR)	
	Fully open built in flow regulator flow rate	1000 dm^3/min. (ANR)	
	Wall fixing screw	M8	

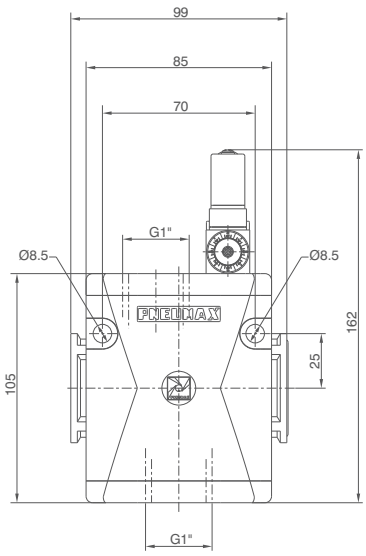
Air intake (PA)

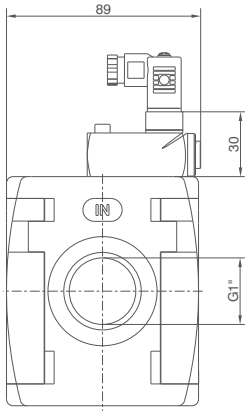


Example : N174BPA : size 4, Air intake, G1" connections

Operational characteristics	Technical characteristics		
- Available with two G1" threaded connections.	Connections	G1"	Ordering code
	Max. inlet pressure	13 bar	**N174BPA**
	Working temperature	-5°C +50°C	
	Weight	720 (gr)	
	Assembly positions	Indifferent	
	Wall fixing screw	M8	

Pressure switch (PP)





Example: N174BPP : Size 4, Pressure switch, G1" connections

Operational characteristics	Technical characteristics	
- Built in adjustable pressure switch (2 to 10 bar) with electrical connection. - Available with two G1" threaded connections. - The electrical connection is made by mean of a 15 mm connector DIN 43650 type C. The microswitch contact could be normally closed or open (change overswitch).	Connections	G1"
	Max. inlet pressure	13 bar
	Working temperature	-5°C +50°C
	Weight	800 (gr)
	Microswitch capacity	1A
	Grade of protection (with connector assembled)	IP 65
	Adjusting range	2 -10 bar
	Assembly positions	Indifferent
	Microswitch maximum tension	250 VAC
	Wall fixing screw	M8

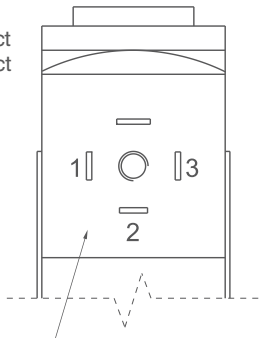
Ordering code

N174BPP(D)

(D)	FLOW DIRECTION
	= from left to right
	W = from right to left

Connection

1 = neutral
2 = N.C. contact
3 = N.O. contact

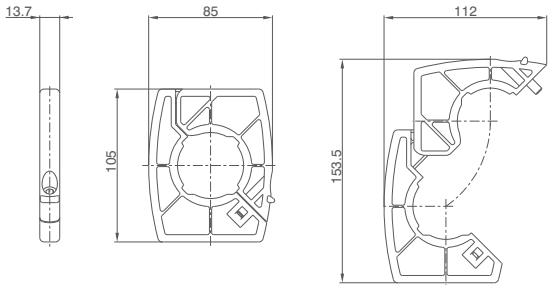


DIN 43650 type C connector

Flange X

Ordering code

T174X

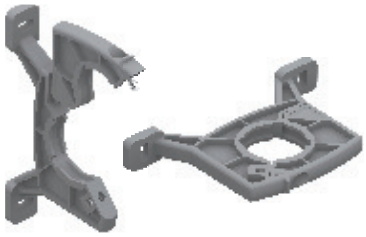


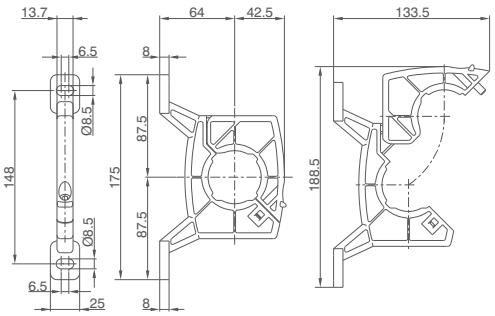
Weight 90 gr.
Example : T174X : Size 4 coupling flange
- Enables the quick connnection of two functions.

Flange Y

Ordering code

T174Y





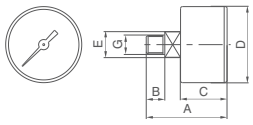
Weight 120 gr.
Example : T174Y : Size 4 coupling flange with mounting holes
- Used to couple together two elements and
  to panel mount them.
- Used to panel mount one single element.

Pressure gauge

Ordering code

17070Ⓥ.Ⓢ

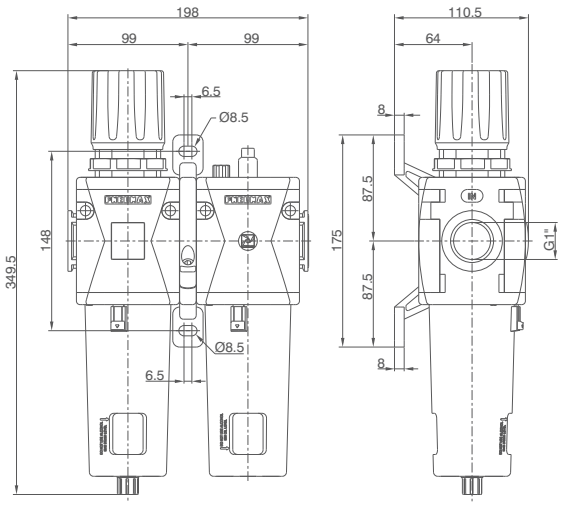
	VERSION
Ⓥ	A = Dial Ø40
	B = Dial Ø50
	SCALE
Ⓢ	A = Scale 0-4 bar
	B = Scale 0-6 bar
	C = Scale 0-12 bar



DIMENSIONS

CODE	A	B	C	D	E	G	Weight gr.
17070A	44	10	26	41	14	1/8"	60
17070B	45	10	27	49	14	1/8"	80

Service unit assembled (EM+L) (E+L) (EW+L)



Example : GN174BHG : size 4, combined group comprising Filter-regulator and Lubricator, G1" connections, 0 to 8 bar adjusting range and 20 μm filter pore size

Operational characteristics

Combined group comprising Filter-regulator with built in manometer and Lubricator assembled with a (Y) type coupling kit for panel mounting.
Integrated manometer 0-12 bar as standard (for 0-8 and 0-12 bar range) and 0-4 bar (for 0-2 and 0-4 range)

Note

The pressure must be always regulating while increasing. For a more precise regulation and higher sensibility, the use of a regulator with a pressure range as close as possible to the regulated pressure is recommended.

Technical characteristics

Connections	G1"
Max. inlet pressure	13 bar
Working temperature	-5°C +50°C
Weight	2585 (gr)
Pressure range	0-2 bar / 0-4 bar 0-8 bar / 0-12 bar
Filter pore size	5 μm - 20 μm - 50 μm
Bowl capacity	90 cm^3
Indicative oil drip rate	1 drop every 300/600 Nl
Oil type	FD22 - HG32
Bowl capacity	360 cm^3
Assembly positions	Vertical
Min. operational flow rate at 6,3 bar	100 dm^3/min. (ANR)
Wall fixing screw	M8

Ordering code

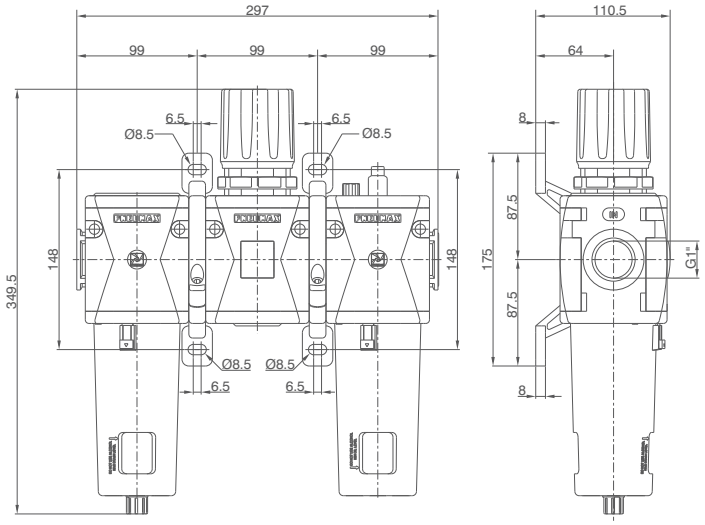
GN174BⓉⓈⓄⒹ

Ⓣ	TYPE
	H = Built in gauge
	J = G1/8" gauge connection
Ⓢ	FILTER PORE SIZE ADJUSTING RANGE
	C = 5 μm / 0-8 bar
	D = 5 μm / 0-12 bar
	G = 20 μm / 0-8 bar
	H = 20 μm / 0-12 bar
	N = 50 μm / 0-8 bar
	P = 50 μm / 0-12 bar
Ⓞ	OPTIONS
	= Standard *
	A = Min.oil level indicator NO
	C = Min.oil level indicator NC
	S = Automatic drain
	SA = Automatic drain + Min.oil level indicator NO
	SC = Automatic drain + Min.oil level indicator NC
Ⓓ	FLOW DIRECTION
	= Standard * (from left to right)
	W = from right to left

* no additional letter required

3

Service unit assembled (F+RM+L) (F+R+L) (F+RW+L)



Example : GN174BKG : size 4 combined group comprising Filter, Regulator and Lubricator, G1" connections, 0 to 8 bar adjusting range and 20 μm filter pore size

3

Operational characteristics

Combined group comprising Filter, Regulator with built in manometer and Lubricator assembled with two (Y) type coupling kits for panel mounting.
Integrated manometer 0-12 bar as standard (for 0-8 and 0-12 bar range) and 0-4 bar (for 0-2 and 0-4 range)

Note

The pressure must be always regulating while increasing. For a more precise regulation and higher sensibility, the use of a regulator with a pressure range as close as possible to the regulated pressure is recommended.

Technical characteristics

Connections	G1”
Max. inlet pressure	13 bar
Working temperature	-5°C +50°C
Weight	3640 (gr)
Pressure range	0-2 bar / 0-4 bar 0-8 bar / 0-12 bar
Filter pore size	5 μm - 20 μm - 50 μm
Bowl capacity	90 cm^3
Indicative oil drip rate	1 drop every 300/600 Nl
Oil type	FD22 - HG32
Bowl capacity	360 cm^3
Assembly positions	Vertical
Min. operational flow rate at 6,3 bar	100 dm^3/min. (ANR)
Wall fixing screw	M8

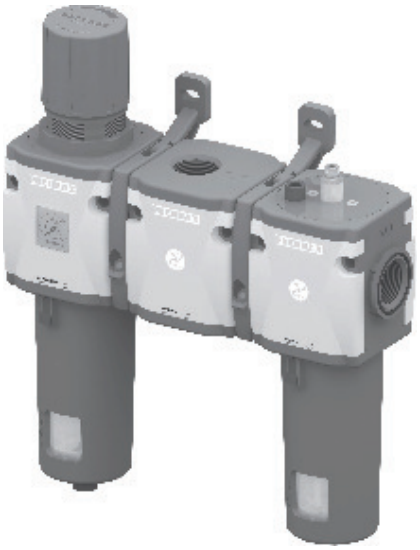
Ordering code

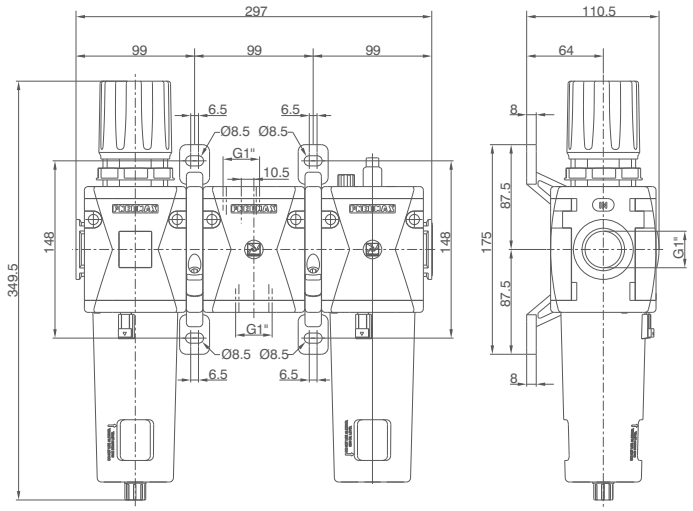
GN174B(T)(S)(O)(D)

(T)	TYPE
	K = Built in gauge
	T = G1/8" gauge connection
(S)	FILTER PORE SIZE ADJUSTING RANGE
	C = 5 μm / 0-8 bar
	D = 5 μm / 0-12 bar
	G = 20 μm / 0-8 bar
	H = 20 μm / 0-12 bar
	N = 50 μm / 0-8 bar
	P = 50 μm / 0-12 bar
(O)	OPTIONS
	= Standard *
	A = Min.oil level indicator NO
	C = Min.oil level indicator NC
	S = Automatic drain
	SA = Automatic drain + Min.oil level indicator NO
	SC = Automatic drain + Min.oil level indicator NC
(D)	FLOW DIRECTION
	= Standard * (from left to right)
	W = from right to left

* no additional letter required

Service unit assembled (EM+PA+L) (E+PA+L) (EW+PA+L)





Example : GN174BNG : size 4 combined group comprising Filter-regulator, Air intake and Lubricator, G1" connections, 0 to 8 bar adjusting range and 20 μm filter pore size

Operational characteristics

Combined group comprising Filter-regulator with built in manometer, Air intake and Lubricator assembled with two (Y) type coupling kits for panel mounting.
Integrated manometer 0-12 bar as standard (for 0-8 and 0-12 bar range) and 0-4 bar (for 0-2 and 0-4 range)

Note

The pressure must be always regulating while increasing. For a more precise regulation and higher sensibility, the use of a regulator with a pressure range as close as possible to the regulated pressure is recommended.

Technical characteristics

Connections	G1"
Max. inlet pressure	13 bar
Working temperature	-5°C +50°C
Weight	3425 (gr)
Pressure range	0-2 bar / 0-4 bar 0-8 bar / 0-12 bar
Filter pore size	5 μm - 20 μm - 50 μm
Bowl capacity	90 cm^3
Indicative oil drip rate	1 drop every 300/600 Nl
Oil type	FD22 - HG32
Bowl capacity	360 cm^3
Assembly positions	Vertical
Min. operational flow rate at 6,3 bar	100 dm^3/min. (ANR)
Wall fixing screw	M8

Ordering code

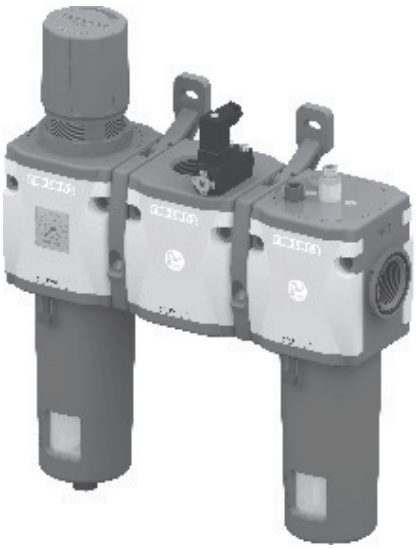
GN174BⓉⓈⓄⒹ

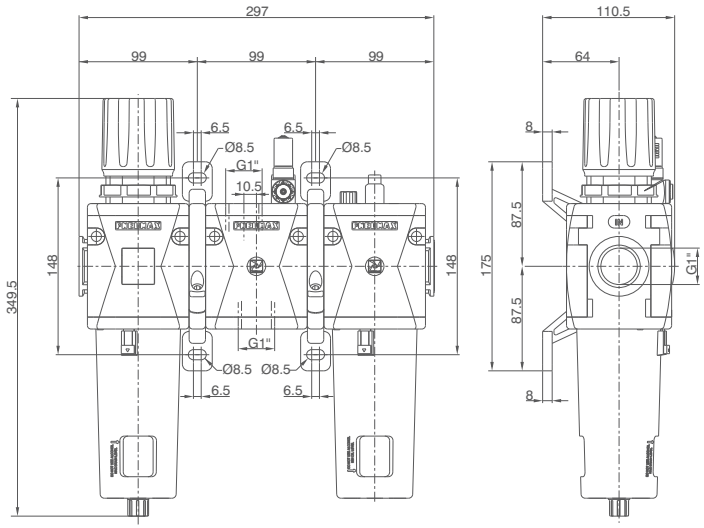
Ⓣ	TYPE
	N = Built in gauge
	P = G1/8" gauge connection
Ⓢ	FILTER PORE SIZE ADJUSTING RANGE
	C = 5 μm / 0-8 bar
	D = 5 μm / 0-12 bar
	G = 20 μm / 0-8 bar
	H = 20 μm / 0-12 bar
	N = 50 μm / 0-8 bar
	P = 50 μm / 0-12 bar
Ⓞ	OPTIONS
	= Standard *
	A = Min.oil level indicator NO
	C = Min.oil level indicator NC
	S = Automatic drain
	SA = Automatic drain + Min.oil level indicator NO
	SC = Automatic drain + Min.oil level indicator NC
Ⓓ	FLOW DIRECTION
	= Standard * (from left to right)
	W = from right to left

* no additional letter required

3

Service unit assembled (EM+PP+L) (E+PP+L) (EW+PP+L)





Example : GN174BRG : size 4 combined group comprising Filter-Regulator, Pressure switch and Lubricator, G1" connections 0 to 8 bar adjusting range and 20 μm filter pore size

3

Operational characteristics

Combined group comprising Filter-regulator with built in manometer, Pressure switch and Lubricator assembled with two (Y) type coupling kits for panel mountings.
Integrated manometer 0-12 bar as standard (for 0-8 and 0-12 bar range) and 0-4 bar (for 0-2 and 0-4 range)

Note

The pressure must be always regulating while increasing. For a more precise regulation and higher sensibility, the use of a regulator with a pressure range as close as possible to the regulated pressure is recommended.

Technical characteristics

Connections	G1”
Max. inlet pressure	13 bar
Working temperature	-5°C +50°C
Weight	3505 (gr)
Pressure range	0-2 bar / 0-4 bar 0-8 bar / 0-12 bar
Filter pore size	5 μm - 20 μm - 50 μm
Bowl capacity	90 cm^3
Indicative oil drip rate	1 drop every 300/600 Nl
Oil type	FD22 - HG32
Bowl capacity	360 cm^3
Assembly positions	Vertical
Min. operational flow rate at 6,3 bar	100 dm^3/min. (ANR)
Wall fixing screw	M8

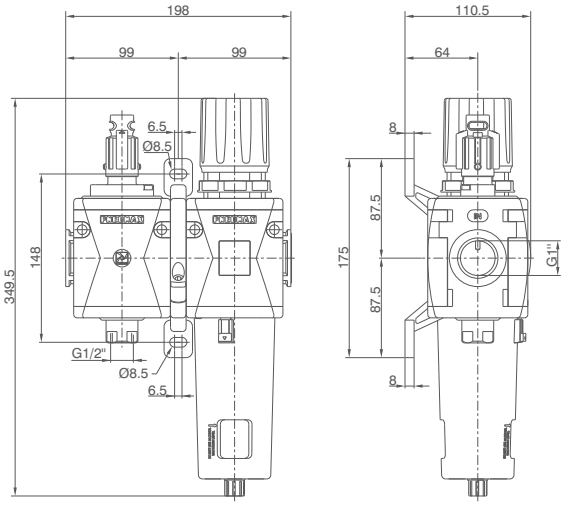
Ordering code

GN174B(T)(S)(O)(D)

(T)	TYPE
	R = Built in gauge
	C = G1/8" gauge connection
(S)	FILTER PORE SIZE ADJUSTING RANGE
	C = 5 μm / 0-8 bar
	D = 5 μm / 0-12 bar
	G = 20 μm / 0-8 bar
	H = 20 μm / 0-12 bar
	N = 50 μm / 0-8 bar
	P = 50 μm / 0-12 bar
(O)	OPTIONS
	= Standard *
	A = Min.oil level indicator NO
	C = Min.oil level indicator NC
	S = Automatic drain
	SA = Automatic drain + Min.oil level indicator NO
	SC = Automatic drain + Min.oil level indicator NC
(D)	FLOW DIRECTION
	= Standard * (from left to right)
	W = from right to left

* no additional letter required

Service unit assembled (VL+EM) (VL+E) (VL+EW)



Example : GN174BVGG : size 4 combined group comprising Shut-off valve and Filter-regulator, G1" connections 0 to 8 bar adjusting range and 20 μm filter pore size

Operational characteristics

Combined group comprising manual shut-off valve, Filter - regulator with built in manometer, assembled with one (Y) type coupling kit for panel mountings. Integrated manometer 0-12 bar as standard (for 0-8 and 0-12 bar range) and 0-4 bar (for 0-2 and 0-4 range)

Note

The pressure must be always regulating while increasing. For a more precise regulation and higher sensibility, the use of a regulator with a pressure range as close as possible to the regulated pressure is recommended.

Technical characteristics

Connections	G1"
Max. inlet pressure	13 bar
Working temperature	-5°C +50°C
Weight	2660 (gr)
Pressure range	0-2 bar / 0-4 bar 0-8 bar / 0-12 bar
Filter pore size	5 μm - 20 μm - 50 μm
Bowl capacity	90 cm^3
Indicative oil drip rate	1 drop every 300/600 Nl
Oil type	FD22 - HG32
Bowl capacity	360 cm^3
Assembly positions	Vertical
Wall fixing screw	M8

Ordering code

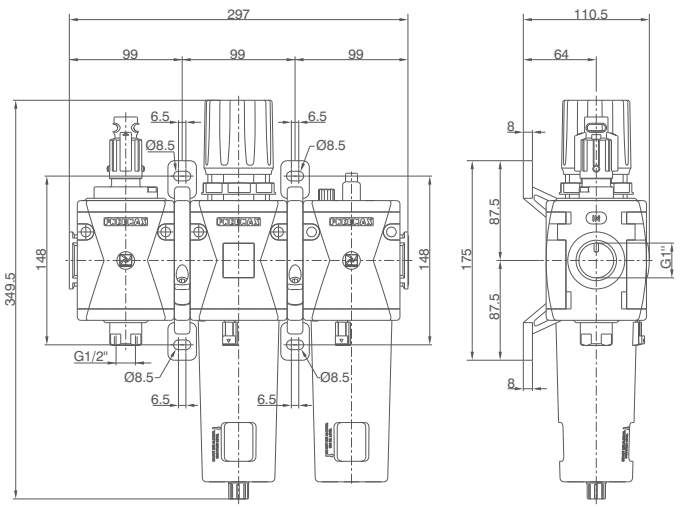
GN174BⓉⓈⓄⒹ

Ⓣ	TYPE
	VG = Built in gauge
	VU = G1/8" gauge connection
Ⓢ	FILTER PORE SIZE ADJUSTING RANGE
	C = 5 μm / 0-8 bar
	D = 5 μm / 0-12 bar
	G = 20 μm / 0-8 bar
	H = 20 μm / 0-12 bar
	N = 50 μm / 0-8 bar
	P = 50 μm / 0-12 bar
Ⓞ	OPTIONS
	= Standard *
	S = Automatic drain
Ⓓ	FLOW DIRECTION
	= Standard * (from left to right)
	W = from right to left

* no additional letter required

3

Service unit assembled (VL+EM+L) (VL+E+L) (VL+EW+L)



Example : GN174BVHG : Size 4 Combined group comprising Shut-off valve, Filter-regulator and Lubricator, G1" connections 0 to 8 bar adjusting range and 20 μm filter pore size

3

Operational characteristics

Combined group comprising manual shut-off valve, Filter - regulator with built in manometer and Lubricator assembled with two(Y) type coupling kits for panel mountings.
Integrated manometer 0-12 bar as standard (for 0-8 and 0-12 bar range) and 0-4 bar (for 0-2 and 0-4 range)

Note

The pressure must be always regulating while increasing. For a more precise regulation and higher sensibility, the use of a regulator with a pressure range as close as possible to the regulated pressure is recommended.

Technical characteristics

Connections	G1"
Max. inlet pressure	13 bar
Working temperature	-5°C +50°C
Weight	3805 (gr)
Pressure range	0-2 bar / 0-4 bar 0-8 bar / 0-12 bar
Filter pore size	5 μm - 20 μm - 50 μm
Bowl capacity	90 cm^3
Indicative oil drip rate	1 drop every 300/600 Nl
Oil type	FD22 - HG32
Bowl capacity	360 cm^3
Assembly positions	Vertical
Min. operational flow rate at 6,3 bar	100 dm^3/min. (ANR)
Wall fixing screw	M8

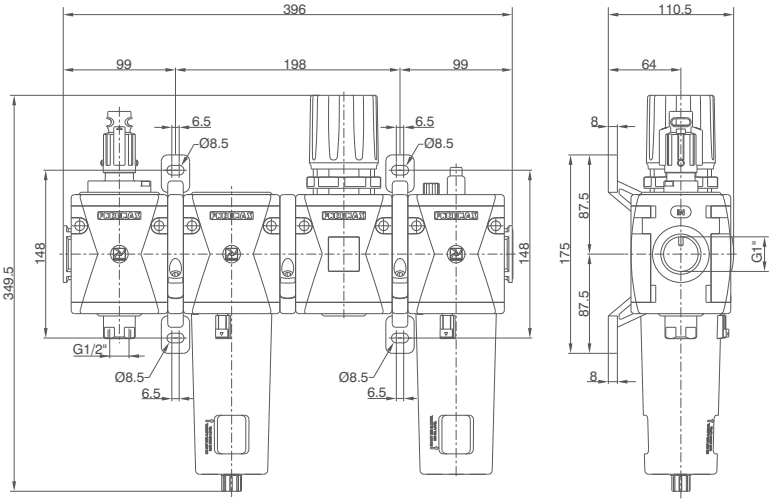
Ordering code

GN174B(T)(S)(O)(D)

(T)	TYPE
	VH = Built in gauge
	VJ = G1/8" gauge connection
(S)	FILTER PORE SIZE ADJUSTING RANGE
	C = 5 μm / 0-8 bar
	D = 5 μm / 0-12 bar
	G = 20 μm / 0-8 bar
	H = 20 μm / 0-12 bar
	N = 50 μm / 0-8 bar
	P = 50 μm / 0-12 bar
(O)	OPTIONS
	= Standard *
	A = Min.oil level indicator NO
	C = Min.oil level indicator NC
	S = Automatic drain
	SA = Automatic drain + Min.oil level indicator NO
	SC = Automatic drain + Min.oil level indicator NC
(D)	FLOW DIRECTION
	= Standard * (from left to right)
	W = from right to left

* no additional letter required

Service unit assembled (VL+F+RM+L) (VL+F+R+L) (VL+F+RW+L)



Example : GN174BVKG : size 4 combined group comprising Shut-off valve, Filter, Regulator and Lubricator, G1" connections 0 to 8 bar adjusting range and 20 μm filter pore size

Operational characteristics	Technical characteristics		
Combined group comprising manual shut - off valve, Filter, Regulator with built in manometer and Lubricator , assembled with two (Y) type coupling kits for panel mounting and one (X) type coupling kit. Integrated manometer 0-12 bar as standard (for 0-8 and 0-12 bar range) and 0-4 bar (for 0-2 and 0-4 range)	Connections	G1"	
	Max. inlet pressure	13 bar	
	Working temperature	-5°C +50°C	
	Weight	4830 (gr)	
	Pressure range	0-2 bar / 0-4 bar 0-8 bar / 0-12 bar	
Note	Filter pore size	5 μm - 20 μm - 50 μm	
The pressure must be always regulating while increasing. For a more precise regulation and higher sensibility, the use of a regulator with a pressure range as close as possible to the regulated pressure is recommended.	Bowl capacity	90 cm^3	
	Indicative oil drip rate	1 drop every 300/600 Nl	
	Oil type	FD22 - HG32	
	Bowl capacity	360 cm^3	
	Assembly positions	Vertical	
	Min. operational flow rate at 6,3 bar	100 dm^3/min. (ANR)	
	Wall fixing screw	M8	

Ordering code

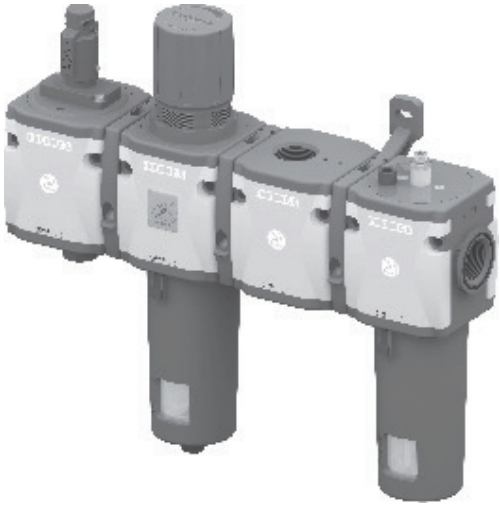
GN174B(T)(S)(O)(D)

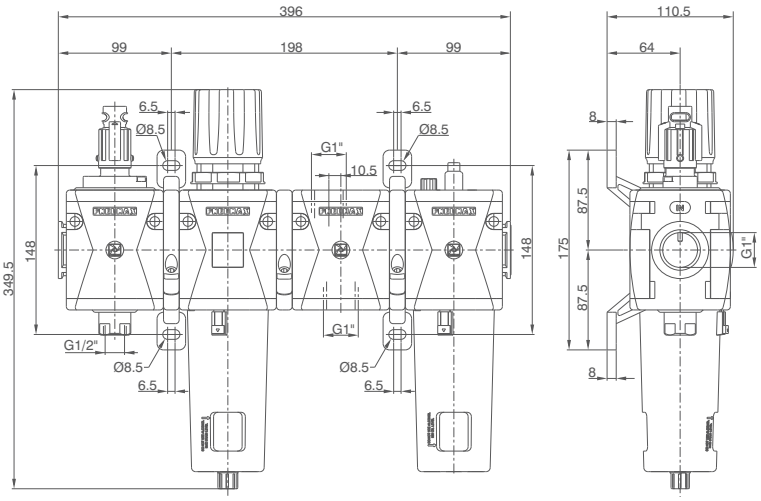
(T)	TYPE
	VK = Built in gauge
	VT = G1/8" gauge connection
(S)	FILTER PORE SIZE ADJUSTING RANGE
	C = 5 μm / 0-8 bar
	D = 5 μm / 0-12 bar
	G = 20 μm / 0-8 bar
	H = 20 μm / 0-12 bar
	N = 50 μm / 0-8 bar
	P = 50 μm / 0-12 bar
(O)	OPTIONS
	= Standard *
	A = Min.oil level indicator NO
	C = Min.oil level indicator NC
	S = Automatic drain
	SA = Automatic drain + Min.oil level indicator NO
	SC = Automatic drain + Min.oil level indicator NC
(D)	FLOW DIRECTION
	= Standard * (from left to right)
	W = from right to left

* no additional letter required

3

Service unit assembled (VL+EM+PA+L) (VL+E+PA+L) (VL+EW+PA+L)





Example : GN174BVNG : size 4 combined group comprising Shut-off valve, Filter-regulator, Air intake and Lubricator, G1" connections 0 to 8 bar adjusting range and 20 µm filter pore size

3

Operational characteristics	Technical characteristics		
Combined group comprising manual shut-off valve, Filter - regulator with built in manometer, Air intake and Lubricator, assembled with two (Y) type coupling kits for panel mounting and one (X) type coupling kit. Integrated manometer 0-12 bar as standard (for 0-8 and 0-12 bar range) and 0-4 bar (for 0-2 and 0-4 range)	Connections	G1"	
	Max. inlet pressure	13 bar	
	Working temperature	-5°C +50°C	
	Weight	4615 (gr)	
	Pressure range	0-2 bar / 0-4 bar 0-8 bar / 0-12 bar	
Note	Filter pore size	5 µm - 20 µm - 50 µm	
The pressure must be always regulating while increasing. For a more precise regulation and higher sensibility, the use of a regulator with a pressure range as close as possible to the regulated pressure is recommended.	Bowl capacity	90 cm^3	
	Indicative oil drip rate	1 drop every 300/600 Nl	
	Oil type	FD22 - HG32	
	Bowl capacity	360 cm^3	
	Assembly positions	Vertical	
	Min. operational flow rate at 6,3 bar	100 dm^3/min. (ANR)	
	Wall fixing screw	M8	

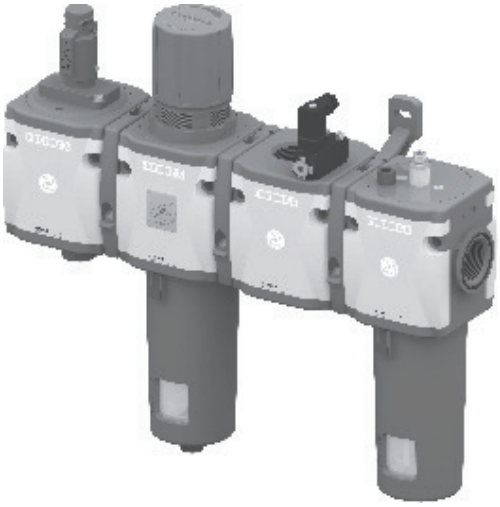
Ordering code

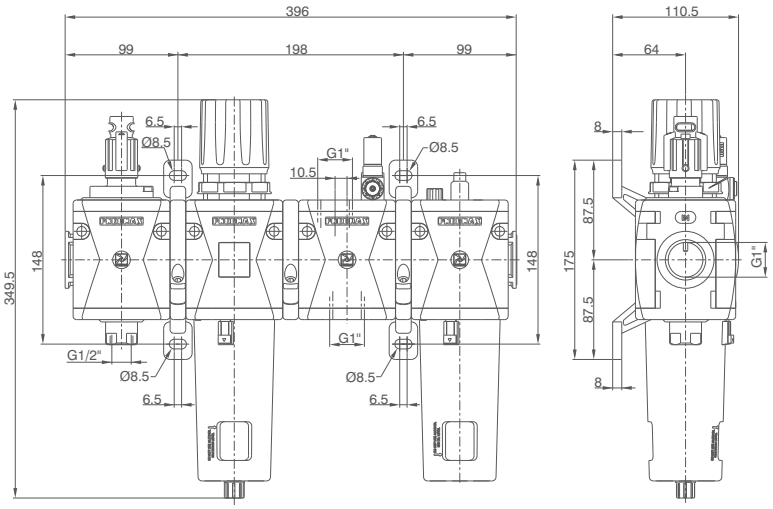
GN174B(T)(S)(O)(D)

(T)	TYPE
	VN = Built in gauge
	VP = G1/8" gauge connection
(S)	FILTER PORE SIZE ADJUSTING RANGE
	C = 5 µm / 0-8 bar
	D = 5 µm / 0-12 bar
	G = 20 µm / 0-8 bar
	H = 20 µm / 0-12 bar
	N = 50 µm / 0-8 bar
	P = 50 µm / 0-12 bar
(O)	OPTIONS
	= Standard *
	A = Min.oil level indicator NO
	C = Min.oil level indicator NC
	S = Automatic drain
	SA = Automatic drain + Min.oil level indicator NO
	SC = Automatic drain + Min.oil level indicator NC
(D)	FLOW DIRECTION
	= Standard * (from left to right)
	W = from right to left

* no additional letter required

Service unit assembled (VL+EM+PP+L) (VL+E+PP+L) (VL+EW+PP+L)





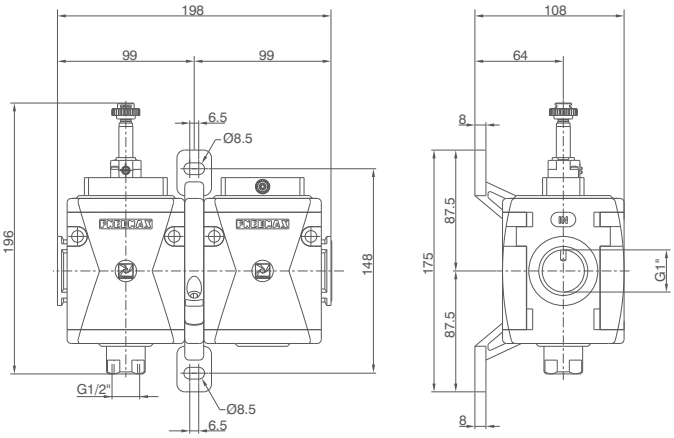
Example : GN174BVRG : size 4 combined group comprising Shut-off valve, Filter-regulator, Pressure switch and Lubricator, G1" connections adjusting range 0 to 8 bar and 20 µm filter pore size

Operational characteristics	Technical characteristics		
Combined group comprising manual shut-off valve, Filter - regulator with built in manometer, Pressure switch and Lubricator, assembled with two (Y) type coupling kits for panel mounting and one (X) type coupling kit. Integrated manometer 0-12 bar as standard (for 0-8 and 0-12 bar range) and 0-4 bar (for 0-2 and 0-4 range)	Connections	G1"	Ordering code
	Max. inlet pressure	13 bar	GN174BⓉⓈⓄⒹ
	Working temperature	-5°C +50°C	
	Weight	4695 (gr)	Ⓣ TYPE
	Pressure range	0-2 bar / 0-4 bar 0-8 bar / 0-12 bar	VR = Built in gauge VC = G1/8" gauge connection
Note	Filter pore size	5 µm - 20 µm - 50 µm	Ⓢ FILTER PORE SIZE ADJUSTING RANGE
The pressure must be always regulating while increasing. For a more precise regulation and higher sensibility, the use of a regulator with a pressure range as close as possible to the regulated pressure is recommended.	Bowl capacity	90 cm³	C = 5 µm / 0-8 bar D = 5 µm / 0-12 bar G = 20 µm / 0-8 bar H = 20 µm / 0-12 bar N = 50 µm / 0-8 bar P = 50 µm / 0-12 bar
	Indicative oil drip rate	1 drop every 300/600 Nl	
	Oil type	FD22 - HG32	
	Bowl capacity	360 cm³	Ⓞ OPTIONS = Standard *
	Assembly positions	Vertical	A = Min.oil level indicator NO C = Min.oil level indicator NC S = Automatic drain SA = Automatic drain + Min.oil level indicator NO SC = Automatic drain + Min.oil level indicator NC
	Min. operational flow rate at 6,3 bar	100 dm³/min. (ANR)	
	Wall fixing screw	M8	Ⓓ FLOW DIRECTION = Standard * (from left to right) W = from right to left

* no additional letter required

3

Service unit assembled (VE+AP)



Example : GN174BSB2 : size 4 combined group comprising Electric shut-off valve and Progressive start-up valve without coil with M2 pilot, G1" connections

3

Operational characteristics	Technical characteristics		
Combined group comprising Electric shut - off valve and Progressive start-up valve assembled with a (Y) type coupling kit for panel mounting.	Connections	G1”	Ordering code
	Max. inlet pressure	10 bar	**GN174BS Ⓐ Ⓓ**
	Min. inlet pressure	2,5 (bar)	
	Working temperature	-5°C +50°C	
	Weight	2390 (gr)	
	Assembly positions	Indifferent	
	Wall fixing screw	M8	

Ⓐ	15 mm COIL VOLTAGE
	A4 = 12 V DC
	A5 = 24 V DC
	A6 = 24 V AC (50-60 Hz)
	A7 = 110 V AC (50-60 Hz)
	A8 = 220 V AC (50-60 Hz)
	A9 = 24 V DC (1 Watt)
	22 mm COIL VOLTAGE
	B2 = Without coil M2 mechanic
	B4 = 12 V DC
	B5 = 24 V DC
	B6 = 24 V AC (50-60 Hz)
	B7 = 110 V AC (50-60 Hz)
	B8 = 220 V AC (50-60 Hz)
	B9 = 24 V DC (2 Watt)
	30 mm COIL VOLTAGE
	C5 = 24 V DC
	C6 = 24 V AC (50-60 Hz)
	C7 = 110 V AC (50-60 Hz)
	C8 = 230 V AC (50-60 Hz)
	C9 = 24 V DC (2 Watt)
Ⓓ	FLOW DIRECTION
	= Standard * (from left to right)
	W = from right to left

* no additional letter required